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09/18/89 267

09/889267

L1 FILE 'HCAPLUS' ENTERED AT 09:55:17 ON 14 NOV 2002  
3201 SEA FILE=HCAPLUS ABB=ON PLU=ON (NEISSE? OR N) (W)MENING  
IT?  
L9 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 AND (BASB040 OR  
BASB040)

L1 3201 SEA FILE=HCAPLUS ABB=ON PLU=ON (NEISSE? OR N) (W)MENING  
IT?  
L10 728 SEA FILE=HCAPLUS ABB=ON PLU=ON L1(S) (VACCIN? OR  
IMMUNIS? OR IMMUNIZ?)  
L15 374 SEA FILE=HCAPLUS ABB=ON PLU=ON L10(S) (POLYPEPTIDE OR  
POLYPROTEIN OR PROTEIN OR PEPTIDE)  
L16 19 SEA FILE=HCAPLUS ABB=ON PLU=ON L15(S) (POLYNUCLEOTIDE  
OR NUCLEOTIDE)

L17 19 L9 OR L16

L17 ANSWER 1 OF 19 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2002:814166 HCAPLUS  
TITLE: Neisseria meningitidis GNA33 peptides and  
antibodies thereto in vaccines and diagnosis of  
meningococcal infection  
INVENTOR(S): Granoff, Dan; Moe, Gregory; Rappuoli, Rino  
PATENT ASSIGNEE(S): Chiron Corporation, USA; Children's Hospital  
Oakland Research Institute  
SOURCE: PCT Int. Appl., 70 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2002083711   | A2   | 20021024 | WO 2002-US11501 | 20020411 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,<br>CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,<br>GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,<br>LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,<br>NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,<br>TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM,<br>AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,<br>CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,<br>SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,<br>SN, TD, TG   |      |          |                 |          |

PRIORITY APPLN. INFO.: US 2001-284554P P 20010417  
US 2001-326838P P 20011003

AB Mol. mimetics of a surface-exposed epitope on loop 4 of PorA of  
Neisseria meningitidis serogroup B (MenB) P1.2 serosubtype and  
antibodies produced against the same are disclosed. Compns. contg.  
such mol. mimetics or the antibodies thereto can be used to prevent  
MenB disease, as well as for diagnosis of MenB infection. The  
mimetics are GNA33 peptides that contain the sequence QTP.

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L17 ANSWER 2 OF 19 HCPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2002:791542 HCPLUS  
DOCUMENT NUMBER: 137:290042  
TITLE: *Neisseria gonorrhoeae proteins and nucleic acids and their use for diagnosis and treatment by streptococcus bacteria*  
INVENTOR(S): Fontana, Maria Rita; Pizza, Mariagrazia;  
Masiginani, Vega; Monaci, Elisabetta  
PATENT ASSIGNEE(S): Chiron Spa, Italy  
SOURCE: PCT Int. Appl., 815 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

| PATENT NO.  | KIND  | DATE     | APPLICATION NO. | DATE       |
|---|---|----------|-----------------|------------|
| WO 2002079243   | A2  | 20021010 | WO 2002-XA2069  | 20020212   |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,<br>CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,<br>GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,<br>LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,<br>NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,<br>TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM,<br>AZ, BY, KG, KZ, MD, RU, TJ, TM | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,<br>CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,<br>SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,<br>SN, TD, TG |          |                 |            |
| WO 2002079243   | A2  | 20021010 | WO 2002-IB2069  | 20020212   |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,<br>CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,<br>GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,<br>LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,<br>NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,<br>TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM,<br>AZ, BY, KG, KZ, MD, RU, TJ, TM | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,<br>CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,<br>SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,<br>SN, TD, TG |          |                 |            |
| PRIORITY APPLN. INFO.:  |   |          | GB 2001-3424    | A 20010212 |
|   |   |          | WO 2002-IB2069  | W 20020212 |

AB The invention provides 4211 proteins from gonococcus (*Neisseria gonorrhoeae* strain FA1090), including amino acid sequences, the corresponding nucleotide sequences, expression data, and serol. data. One hundred fifty-nine of these proteins have no homolog in serogroup B meningococcus. The proteins are useful antigens for vaccines, immunogenic compns., and/or diagnostics. They are also useful for distinguishing between gonococcus and meningococcus and, in particular, between gonococcus and serogroup B meningococcus. [This abstr. record is one of two records for this document necessitated by the large no. of index entries required to fully index the document and publication system constraints.].

L17 ANSWER 3 OF 19 HCPLUS COPYRIGHT 2002 ACS

Searcher : Shears 308-4994

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ACCESSION NUMBER: 2002:157999 HCPLUS  
DOCUMENT NUMBER: 136:211938  
TITLE: Cloning of outer surface protein genes of Neisseria meningitidis useful for the development of novel antibacterial agents and vaccines  
INVENTOR(S): Lane, Jonathan Douglas; Hughes, Martin John Glenton; Santangelo, Joseph David  
PATENT ASSIGNEE(S): Microscience Limited, UK  
SOURCE: PCT Int. Appl., 79 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 2002016612   | A2   | 20020228 | WO 2001-GB3759  | 20010821   |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |            |
| AU 2001082299   | A5   | 20020304 | AU 2001-82299   | 20010821   |
| PRIORITY APPLN. INFO.:  |      |          | GB 2000-20952   | A 20000824 |
|   |      |          | WO 2001-GB3759  | W 20010821 |

AB A series of genes from Neisseria meningitidis are shown to encode products which are targets for immunization. Specifically, 17 outer surface protein genes are cloned from Neisseria meningitidis. The gene and gene product may be of use in diagnosis and identification of the pathogen and in screening for and development of novel antibacterial agents and vaccines.

L17 ANSWER 4 OF 19 HCPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2001:851207 HCPLUS  
DOCUMENT NUMBER: 135:369157  
TITLE: Mutations in virulence proteins from Neisseria meningitidis and their use in vaccines for meningitis  
INVENTOR(S): Tang, Christoph  
PATENT ASSIGNEE(S): Microscience Limited, UK  
SOURCE: PCT Int. Appl., 55 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| WO 2001087939 | A2   | 20011122 | WO 2001-GB2247  | 20010518 |

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WO 2001087939 A3 20020328

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,  
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,  
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,  
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,  
TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ,  
MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH,  
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,  
TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD,  
TG

PRIORITY APPLN. INFO.: GB 2000-12079 A 20000518

AB A series of genes from *Neisseria meningitidis* are shown to encode products which are responsible for DNA uptake. The identification of these genes therefore allows attenuated microorganisms to be produced that have a reduced ability to take up DNA. Microorganisms of the invention may be used in the prodn. of genetically stable mutant microorganisms. The genes or their encoded products can be used in the manuf. of vaccines for therapeutic application.

L17 ANSWER 5 OF 19 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:833359 HCPLUS

DOCUMENT NUMBER: 135:367736

TITLE: Virulence genes and proteins from *Neisseria meningitidis* and their use in vaccines and antimicrobial agent manufacture

INVENTOR(S): Tang, Christoph

PATENT ASSIGNEE(S): Microscience Limited, UK

SOURCE: PCT Int. Appl., 423 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO.  | DATE     |
|---------------|------|----------|--|----------|
| WO 2001085772 | A2   | 20011115 | WO 2001-GB2003   | 20010508 |
| WO 2001085772 | A3   | 20020328 |  |          |
|               |      |          | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,<br>CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,<br>GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,<br>LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,<br>NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,<br>TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ,<br>MD, RU, TJ, TM<br>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH,<br>CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,<br>TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD,<br>TG |          |
|               |      |          | PRIORITY APPLN. INFO.: GB 2000-11108 A 20000508  |          |

AB A series of 104 genes from *Neisseria meningitidis* C311+, and ET-55 serotype B, are shown to encode products which are implicated in virulence. The identification of these genes therefore allows attenuated microorganisms to be produced. Furthermore, the genes or their encoded products can be used in the manuf. of vaccines for therapeutic application. Antibodies raised against the protein

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products of 5 of the genes recognized several different strains of N. meningitidis B.

L17 ANSWER 6 OF 19 HCPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2001:396693 HCPLUS  
DOCUMENT NUMBER: 135:32728  
TITLE: Compositions comprising Neisseria meningitidis antigens from serogroups B and C  
INVENTOR(S): Giuliani, Marzia Monica; Pizza, Mariagrazia; Rappuoli, Rino  
PATENT ASSIGNEE(S): Chiron Spa, Italy  
SOURCE: PCT Int. Appl., 27 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 2001037863   | A2   | 20010531 | WO 2000-IB1940  | 20001129   |
| WO 2001037863   | A3   | 20011227 |                 |            |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |            |
| EP 1235589  | A2   | 20020904 | EP 2000-981554  | 20001129   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                 |            |
| PRIORITY APPLN. INFO.:  |      |          | GB 1999-28196   | A 19991129 |
|   |      |          | WO 2000-IB1940  | W 20001129 |

AB International patent application WO99/61053 discloses immunogenic compns. that comprise N. meningitidis serogroup C oligosaccharide conjugated to a carrier, in combination with N. meningitidis serogroup B outer membrane protein. These are disclosed in the present application in combination with further Neisserial proteins and/or protective antigens against other pathogenic organisms (e.g. Haemophilus influenzae, DTP, HBV, etc.).

L17 ANSWER 7 OF 19 HCPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2000:603693 HCPLUS  
DOCUMENT NUMBER: 134:52089  
TITLE: Allelic diversity of the two transferrin binding protein B gene isotypes among a collection of Neisseria meningitidis strains representative of serogroup B disease: implication for the composition of a recombinant TbpB-based vaccine  
AUTHOR(S): Rokbi, Bachra; Renauld-Mongenie, Genevieve; Mignon, Michele; Danve, B.; Poncet, David; Chabanel, Christophe; Caugant, Dominique A.; Quentin-Millet, Marie-Jose

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CORPORATE SOURCE: Aventis Pasteur, Marcy-L'Etoile, 69280, Fr.  
SOURCE: Infection and Immunity (2000), 68(9), 4938-4947  
CODEN: INFIBR; ISSN: 0019-9567  
PUBLISHER: American Society for Microbiology  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The distribution of the two isotypes of tbpB in a collection of 108 serogroup B meningococcal strains belonging to the four major clonal groups assocd. with epidemic and hyperendemic disease (the ET-37 complex, the ET-5 complex, lineage III, and cluster A4) was detd. Isotype I strains (with a 1.8-kb tbpB gene) was less represented than isotype II strains (19.4 vs. 80.6%). Isotype I was restricted to the ET-37 complex strains, while isotype II was found in all four clonal complexes. The extent of the allelic diversity of tbpB in these two groups was studied by PCR restriction anal. and sequencing of 10 new tbpB genes. Four major tbpB gene variants were characterized: B16B6 (representative of isotype I) and M982, BZ83, and 8680 (representative of isotype II). The relevance of these variants was assessed at the antigenic level by the detn. of cross-bactericidal activity of purified IgG preps. raised to the corresponding recombinant TbpB (rTbpB) protein against a panel of 27 strains (5 of isotype I and 22 of isotype II). The results indicated that rTbpB corresponding to each variant was able to induce cross-bactericidal antibodies. However, the no. of strains killed with an anti-rTbpB serum was slightly lower than that obtained with an anti-TbpA+B complex. None of the sera tested raised against an isotype I strain was able to kill an isotype II strain and vice versa. None of the specific antisera tested (anti-rTbpB or anti-TbpA+B complex) was able to kill all of the 22 isotype II strains tested. Moreover, using sera raised against the C-terminus domain of TbpB M982 (amino acids 352 to 691) or BZ83 (amino acids 329 to 669) fused to the maltose-binding protein, cross-bactericidal activity was detected against 12 and 7 isotype II strains, resp., of the 22 tested. These results suggest surface accessibility of the C-terminal end of TbpB. Altogether, these results show that although more than one rTbpB will be required in the compn. of a TbpB-based vaccine to achieve a fully cross-bactericidal activity, rTbpB and its C terminus were able by themselves to induce cross-bactericidal antibodies.

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 8 OF 19 HCPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2000:402004 HCPLUS  
DOCUMENT NUMBER: 133:39137  
TITLE: Sequences of *Neisseria meningitidis* protein **BASB040**, and uses thereof in vaccines and in diagnostic applications  
INVENTOR(S): Ruelle, Jean-Louis  
PATENT ASSIGNEE(S): SmithKline Beecham Biologicals S.A., Belg.  
SOURCE: PCT Int. Appl., 98 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

09/889267

| PATENT NO.             | KIND   | DATE     | APPLICATION NO. | DATE       |
|------------------------|--|----------|-----------------|------------|
| WO 2000034480          | A1   | 20000615 | WO 1999-EP9560  | 19991202   |
| W:                     | AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |          |                 |            |
| RW:                    | GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |          |                 |            |
| EP 1137778             | A1   | 20011004 | EP 1999-961063  | 19991202   |
| R:                     | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO   |          |                 |            |
| PRIORITY APPLN. INFO.: |  |          | GB 1998-26886   | A 19981207 |
|                        |  |          | WO 1999-EP9560  | W 19991202 |

AB This invention provides sequences of a newly identified *Neisseria meningitidis* protein, designated **BASB040**. **BASB040** was isolated from *N. meningitidis* serogroup B strains ATCC13090 and H44/76. Also disclosed are methods for utilizing **BASB040** in vaccines and in diagnostic assays for detecting diseases assocd. with inappropriate **BASB040** activity or levels.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 9 OF 19 HCPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 2000:401990 HCPLUS  
 DOCUMENT NUMBER: 133:55970  
 TITLE: Heat shock genes HSP60 and HSP70 and the proteins from *Neisseria meningitidis*, *Candida glabrata* and *Aspergillus fumigatus* and the development of vaccines  
 INVENTOR(S): Wisniewski, Jan  
 PATENT ASSIGNEE(S): Stressgen Biotechnologies Corporation, Can.  
 SOURCE: PCT Int. Appl., 118 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.    | KIND   | DATE     | APPLICATION NO. | DATE     |
|---------------|--|----------|-----------------|----------|
| WO 2000034465 | A2   | 20000615 | WO 1999-CA1152  | 19991201 |
| WO 2000034465 | A3   | 20001026 |                 |          |
| W:            | AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |          |                 |          |
| RW:           | GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |          |                 |          |

09/889267

EP 1137770 A2 20011004 EP 1999-957790 19991201  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: US 1998-207388 A 19981208  
WO 1999-CA1152 W 19991201

AB Genes and heat-shock proteins of *Neisseria meningitidis* (HSP70), *Candida glabrata* (HSP60) and *Aspergillus fumigatus* (HSP60) are characterized for use in the development of vaccines against meningitis, candidiasis and aspergillosis. The genes and proteins can also be used in the diagnosis of infections by these organisms. Species-specific PCR primers are described.

L17 ANSWER 10 OF 19 HCPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2000:314839 HCPLUS  
DOCUMENT NUMBER: 132:330635  
TITLE: Genes and proteins specific for *Neisseria meningitidis* and their use in vaccination  
INVENTOR(S): Aujame, Luc; Bouchardon, Annabelle;  
Renauld-Mongenie, Genevieve; Rokbi, Bachra;  
Nassif, Xavier; Tinsley, Colin; Perrin, Agnes  
PATENT ASSIGNEE(S): Pasteur Merieux Serums et Vaccins, Fr.; Institut National de la Sante et de la Recherche Medicale (INSERM)  
SOURCE: PCT Int. Appl., 187 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: French  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.   | KIND | DATE           | APPLICATION NO. | DATE     |
|--|------|----------------|-----------------|----------|
| WO 2000026375  | A2   | 20000511       | WO 1999-FR2643  | 19991028 |
| WO 2000026375  | A3   | 20000817       |                 |          |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,<br>CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,<br>ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,<br>LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,<br>SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,<br>VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |                |                 |          |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,<br>DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF,<br>BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |      |                |                 |          |
| FR 2785293   | A1   | 20000505       | FR 1998-13693   | 19981030 |
| FR 2785293   | B1   | 20020705       |                 |          |
| AU 9963479   | A1   | 20000522       | AU 1999-63479   | 19991028 |
| EP 1129195   | A2   | 20010905       | EP 1999-950875  | 19991028 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,<br>PT, IE, SI, LT, LV, FI, RO   |      |                |                 |          |
| PRIORITY APPLN. INFO.:   |      | FR 1998-13693  | A 19981030      |          |
|  |      | WO 1999-FR2643 | W 19991028      |          |

AB The invention concerns nucleic acids coding for polypeptides specific for *Neisseria meningitidis*, the corresponding polypeptides, and their diagnostic and therapeutic applications. Thus, genes and proteins found in *N. meningitidis* but not in *N. lactamica* were identified and sequenced.

L17 ANSWER 11 OF 19 HCPLUS COPYRIGHT 2002 ACS

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ACCESSION NUMBER: 2000:191222 HCAPLUS  
DOCUMENT NUMBER: 132:232744  
TITLE: BASB033 genes and proteins from *Neisseria meningitidis* and their use in diagnosis and for vaccination  
INVENTOR(S): Ruelle, Jean-louis  
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.  
SOURCE: PCT Int. Appl., 93 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 2000015801   | A1   | 20000323 | WO 1999-EP6718  | 19990909   |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |            |
| CA 2343314  | AA   | 20000323 | CA 1999-2343314 | 19990909   |
| AU 9958622  | A1   | 20000403 | AU 1999-58622   | 19990909   |
| EP 1112366  | A1   | 20010704 | EP 1999-946160  | 19990909   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO   |      |          |                 |            |
| JP 2002528057   | T2   | 20020903 | JP 2000-570328  | 19990909   |
| PRIORITY APPLN. INFO.:  |      |          | GB 1998-20003   | A 19980914 |
|   |      |          | WO 1999-EP6718  | W 19990909 |

AB The invention provides BASB033 proteins and genes and methods for producing such proteins by recombinant techniques. Also provided are diagnostic, prophylactic and therapeutic uses. The BASB033 protein from the ATCC13090 strain showed significant similarity (35% identity in a 292 amino acid overlap) with the *Klebsiella pneumoniae* outer membrane phospholipase A protein. The BASB033 protein for the H44/76 strain displayed .apprx.99% sequence identity with that of the ATCC13090 strain. The protein was produced with recombinant E. coli and used to immunize mice. Almost all *N. meningitidis* serogroup B strain tested reacted with the antibodies produced by these mice. Anti-BASB033 antibodies were found in sera of convalescent patients. The promoter region of the BASB033 gene was cloned and sequenced.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 12 OF 19 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1999:764198 HCAPLUS  
DOCUMENT NUMBER: 132:19650  
TITLE: Protein and DNA sequences of *Neisseria meningitidis* BASB030 gene epitopes, and uses thereof in vaccine compositions and in assays for the diagnosis of bacterial infections

09/889267

INVENTOR(S): Ruelle, Jean-louis  
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.  
SOURCE: PCT Int. Appl., 96 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 9961620   | A2   | 19991202 | WO 1999-EP3603  | 19990526   |
| WO 9961620   | A3   | 20000302 |                 |            |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU,<br>CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,<br>IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,<br>MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,<br>SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW,<br>AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE,<br>DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,<br>CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |      |          |                 |            |
| CA 2329269   | AA   | 19991202 | CA 1999-2329269 | 19990526   |
| AU 9945006   | A1   | 19991213 | AU 1999-45006   | 19990526   |
| EP 1080198   | A2   | 20010307 | EP 1999-927754  | 19990526   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,<br>PT, IE, SI, FI   |      |          |                 |            |
| JP 2002516105  | T2   | 20020604 | JP 2000-551004  | 19990526   |
| BR 9911601   | A    | 20010206 | BR 1999-11601   | 19991202   |
| NO 2000005952  | A    | 20010118 | NO 2000-5952    | 20001124   |
| PRIORITY APPLN. INFO.:   |      |          | GB 1998-11260   | A 19980526 |
|  |      |          | WO 1999-EP3603  | W 19990526 |

AB The invention provides *Neisseria meningitidis* BASB030 polypeptides and polynucleotides encoding BASB030 polypeptides and methods for producing such polypeptides by recombinant techniques. Also provided are antibodies, diagnostic, prophylactic and therapeutic uses thereof. The invention also relates to the use of an immunogenic fragment, preferably the extracellular domain, of the provided protein in a vaccine. The invention further relates to the use of the provided protein and/or gene in the diagnosis of bacterial infections, esp. those of *Neisseria*.

L17 ANSWER 13 OF 19 HCPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1999:736937 HCPLUS  
DOCUMENT NUMBER: 131:347559  
TITLE: Basb029 polynucleotide(s) and polypeptides from  
*Neisseria meningitidis*  
INVENTOR(S): Ruelle, Jean-Louis  
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.  
SOURCE: PCT Int. Appl., 74 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|            |      |      |                 |      |

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|                        |  |          |                 |            |
|------------------------|--|----------|-----------------|------------|
| WO 9958683             | A2   | 19991118 | WO 1999-EP3255  | 19990507   |
| WO 9958683             | A3   | 20000406 |                 |            |
| W:                     | AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |          |                 |            |
| RW:                    | GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |          |                 |            |
| CA 2328403             | AA   | 19991118 | CA 1999-2328403 | 19990507   |
| AU 9941420             | A1   | 19991129 | AU 1999-41420   | 19990507   |
| AU 750032              | B2   | 20020711 |                 |            |
| EP 1078063             | A2   | 20010228 | EP 1999-924946  | 19990507   |
| R:                     | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI   |          |                 |            |
| BR 9910396             | A  | 20011030 | BR 1999-10396   | 19990507   |
| JP 2002514424          | T2   | 20020521 | JP 2000-548474  | 19990507   |
| NO 2000005696          | A  | 20010111 | NO 2000-5696    | 20001110   |
| PRIORITY APPLN. INFO.: |  |          | GB 1998-10276   | A 19980513 |
|                        |  |          | WO 1999-EP3255  | W 19990507 |

AB The invention provides BASB029 polypeptides and polynucleotides encoding BASB029 polypeptides and methods for producing such polypeptides by recombinant techniques. Also provided are diagnostic, prophylactic and therapeutic uses as novel vaccine compns. are relayed. Prognostic and serotyping and mutation assays are all provided. In addn., antagonist and agonist screening assays are provided. Applications for immunization are relayed as well.

L17 ANSWER 14 OF 19 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:723179 HCPLUS  
DOCUMENT NUMBER: 131:335798  
TITLE: *Neisseria meningitidis* and *N. gonorrhoeae* antigens and the genes encoding them for use as vaccine and diagnostic compositions  
INVENTOR(S): Fraser, Claire; Galeotti, Cesira; Grandi, Guido; Hickey, Erin; Massignani, Vega; Mora, Marirosa; Petersen, Jeremy; Pizza, Mariagratis; Rappuoli, Rino; Ratti, Giulio; Scalato, Enzo; Scarselli, Maria; Tettelin, Herve; Venter, J. Craig  
PATENT ASSIGNEE(S): Chiron Corporation, USA; The Institute for Genomic Research  
SOURCE: PCT Int. Appl., 1453 pp.  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 5  
PATENT INFORMATION:

| PATENT NO. | KIND  | DATE     | APPLICATION NO. | DATE     |
|------------|---|----------|-----------------|----------|
| WO 9957280 | A2  | 20000824 | WO 1999-US9346  | 19990430 |
| WO 9957280 | C2  | 20020829 |                 |          |
| W:         | AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, |          |                 |          |

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SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW  
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AM, AZ, BY, KG, KZ,  
MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR,  
IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN,  
GW, ML, MR, NE, SN, TD, TG  
CA 2330838 AA 19991111 CA 1999-2330838 19990430  
AU 9939677 A1 19991123 AU 1999-39677 19990430  
EP 1093517 A2 20010425 EP 1999-922752 19990430  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, FI

PRIORITY APPLN. INFO.: US 1998-83758P P 19980501  
US 1998-94869P P 19980731  
US 1998-98994P P 19980902  
US 1998-99062P P 19980902  
US 1998-103749P P 19981009  
US 1998-103796P P 19981009  
US 1998-104794P P 19981009  
US 1999-121528P P 19990225  
US 1998-103794P P 19981009  
WO 1999-US9346 W 19990430

AB The invention provides 1510 proteins from *Neisseria meningitidis* and *N. gonorrhoeae*, including the amino acid sequences and the corresponding nucleotide sequences. The proteins are predicted to be useful antigens for vaccines and/or diagnostics. Conservation of ORFs 225, 235, 287, 419 and 919 is confirmed by sequencing of the proteins from multiple strains each. In addn., PCR primer pairs are provided for amplification of the open reading frames.

L17 ANSWER 15 OF 19 HCPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:708915 HCPLUS

DOCUMENT NUMBER: 131:333044

TITLE: Protein and DNA sequences of *Neisseria meningitidis* BASB006 gene, and uses thereof in vaccine compositions and in assays for the diagnosis of bacterial infections

INVENTOR(S): Thonnard, Joelle

PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S. A., Belg.

SOURCE: PCT Int. Appl., 103 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|--|------|----------|-----------------|----------|
| WO 9955873   | A2   | 19991104 | WO 1999-EP2766  | 19990420 |
| WO 9955873   | A3   | 20000309 |                 |          |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU,<br>CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,<br>IN, IS, JP, KE, KG, KP, KR, LZ, LC, LK, LR, LS, LT, LU, LV,<br>MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,<br>SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW,<br>AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE,<br>DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,<br>CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |      |          |                 |          |
| CA 2326375   | AA   | 19991104 | CA 1999-2326375 | 19990420 |

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|  |    |          |                |          |
|--|----|----------|----------------|----------|
| AU 9939284   | A1 | 19991116 | AU 1999-39284  | 19990420 |
| EP 1071783   | A2 | 20010131 | EP 1999-922122 | 19990420 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,<br>PT, IE, FI |    |          |                |          |
| JP 2002512800  | T2 | 20020508 | JP 2000-546017 | 19990420 |
| PRIORITY APPLN. INFO.: GB 1998-8866 A 19980424                               |    |          |                |          |
| WO 1999-EP2766 W 19990420  |    |          |                |          |

AB This invention provides the sequence of the *Neisseria meningitidis* BASB006 gene, which encodes a protein that has homol. to the Hap protein of *Haemophilus influenzae*. The invention also relates to the use of an immunogenic fragment, preferably the extracellular domain, of the provided protein in a vaccine. The invention further relates to the use of the provided protein and/or gene in the diagnosis of bacterial infections, esp. those of *Neisseria*.

L17 ANSWER 16 OF 19 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:708914 HCAPLUS

DOCUMENT NUMBER: 131:333043

TITLE: Protein and DNA sequences of *Neisseria meningitidis* BASB013 gene, and uses thereof in vaccine compositions and in assays for the diagnosis of bacterial infections

INVENTOR(S): Ruelle, Jean-louis

PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.

SOURCE: PCT Int. Appl., 94 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 9955872  | A1   | 19991104 | WO 1999-EP2765  | 19990420 |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |          |
| CA 2326404  | AA   | 19991104 | CA 1999-2326404 | 19990420 |
| AU 9938221  | A1   | 19991116 | AU 1999-38221   | 19990420 |
| EP 1073747  | A1   | 20010207 | EP 1999-920767  | 19990420 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI   |      |          |                 |          |

PRIORITY APPLN. INFO.: GB 1998-8734 A 19980423  
WO 1999-EP2765 W 19990420

AB This invention provides the sequence of the *Neisseria meningitidis* BASB013 gene, which encodes a protein that has homol. to the MucD protein of *Pseudomonas aeruginosa* and to the HtrA serine protease found in many bacteria. The invention also relates to the use of an immunogenic fragment, preferably the extracellular domain, of the provided protein in a vaccine. The invention further relates to the use of the provided protein and/or gene in the diagnosis of bacterial infections, esp. those of *Neisseria*.

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REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 17 OF 19 HCPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1999:412243 HCPLUS  
DOCUMENT NUMBER: 131:198352  
TITLE: Identification and characterization of TspA, a major CD4+ T-cell- and B-cell-stimulating Neisseria-specific antigen  
AUTHOR(S): Kizil, Goksel; Todd, Ian; Atta, Mustafa; Borriello, S. Peter; Ait-Tahar, Kamel; Ala'Aldeen, Dlawer A. A.  
CORPORATE SOURCE: Meningococcal Research Group, Divisions of Microbiology and Immunology, School of Clinical Laboratory Sciences, University of Nottingham, Nottingham, NG7 2UH, UK  
SOURCE: Infection and Immunity (1999), 67(7), 3533-3541  
CODEN: INFIBR; ISSN: 0019-9567

PUBLISHER: American Society for Microbiology  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB In search for novel T-cell immunogens involved in protection against invasive meningococcal disease, the authors screened fractionated proteins of *Neisseria meningitidis* (strain SD, B:15:P1.16) by using peripheral blood mononuclear cells (PBMCs) and specific T-cell lines obtained from normal individuals and patients convalescing from *N. meningitidis* infection. Proteins of iron-depleted meningococci produced higher PBMC proliferation indexes than proteins of iron-replete organisms, indicating that iron-regulated proteins are T-cell immunogens. Insol. proteins of the iron-depleted cells, which produced better T-cell stimulation than sol. ones, were fractionated by using SDS-polyacrylamide gels and recovered as five fractions (F1 to F5) corresponding to decreasing mol. wt. ranges. The proteins were purified (by elution and pptn.) or electroblotted onto nitrocellulose membranes (dissolved and pptd.) before use in further T-cell proliferation assays. One of the fractions (F1), contg. high-mol.-mass proteins (>130 kDa), consistently showed the strongest T-cell proliferation responses in all of the T-cell lines examd. F1 proteins were subdivided into four smaller fractions (F1A to F1D) which were reexamd. in T-cell proliferation assays, and F1C induced the strongest responses in patients' T-cell lines. Rabbit polyclonal antibodies to F1C components were used to screen a genomic expression library of *N. meningitidis*. Two major clones (C1 and C24) of recombinant meningococcal DNA were identified and fully sequenced. Sequence anal. showed that C24 (1,874 bp) consisted of a single open reading frame (ORF), which was included in clone C1 (2,778 bp). The strong CD4+ T-cell-stimulating effect of the polypeptide product of this ORF (named TspA) was confirmed, using a patient T-cell line. Immunogenicity for B cells was confirmed by showing that convalescent patients' serum antibodies recognized TspA on Western blots. Addnl. genetic sequence downstream of C24 was obtained from the meningococcal genomic sequence database (Sanger Center), enabling the whole gene of 2,761 bp to be reconstructed. The DNA and deduced amino acid sequence data for tspA failed to show significant homol. to any known gene, except for a corresponding (uncharacterized) gene in *Neisseria gonorrhoeae* genome sequences, suggesting that tspA is unique to the genus *Neisseria*. The DNA and

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deduced amino acid sequence of the second ORF of clone C1 showed significant homol. to gloA, encoding glyoxalase I enzyme, of *Salmonella typhimurium* and *Escherichia coli*. Thus, the authors have identified a novel neisserial protein (TspA) which proved to be a strong CD4+ T-cell- and B-cell-stimulating immunogen with potential as a possible vaccine candidate.

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1999:139967 HCAPLUS  
DOCUMENT NUMBER: 130:194221  
TITLE: Lactoferrin binding protein B of *Neisseria meningitidis* for use as an antigen in meningitis vaccines  
INVENTOR(S): Pettersson-Fernholm, Annika Margareta;  
Tommassen, Johannes Petrus Maria  
PATENT ASSIGNEE(S): University of Utrecht, Neth.; Technology Foundation (Technologiestichting Stw)  
SOURCE: PCT Int. Appl., 116 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 9909176   | A1   | 19990225 | WO 1998-EP5117  | 19980810   |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,<br>DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP,<br>KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,<br>MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,<br>TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG,<br>KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,<br>ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,<br>CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |      |          |                 |            |
| CA 2301332   | AA   | 19990225 | CA 1998-2301332 | 19980810   |
| AU 9892613   | A1   | 19990308 | AU 1998-92613   | 19980810   |
| AU 744733  | B2   | 20020228 |                 |            |
| EP 1003874   | A1   | 20000531 | EP 1998-945224  | 19980810   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,<br>PT, IE, SI, FI   |      |          |                 |            |
| BR 9811907   | A    | 20000815 | BR 1998-11907   | 19980810   |
| JP 2001514894  | T2   | 20010918 | JP 2000-509840  | 19980810   |
| ZA 9807303   | A    | 20000214 | ZA 1998-7303    | 19980814   |
| NO 2000000731  | A    | 20000331 | NO 2000-731     | 20000214   |
| PRIORITY APPLN. INFO.:   |      |          | GB 1997-17423   | A 19970815 |
|  |      |          | GB 1998-2544    | A 19980205 |
|  |      |          | WO 1998-EP5117  | W 19980810 |

AB A second lactoferrin-binding protein, LbpB, of *Neisseria meningitidis* is identified as an outer membrane protein that may be useful in meningitis vaccines and the lpbB gene encoding it is cloned. The protein plays a role in the iron-dependent and lactoferrin neutralizing processes of pathogenesis and so may be a useful target for vaccines. Mutation of the gene lowered levels of lactoferrin

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binding by *Neisseria* although the effect was less than that from mutation in the gene for lactoferrin-binding protein A. Inactivation of both genes largely eliminated lactoferrin binding. Convalescent serum from eight of twelve meningococcal meningitis patients reacted with native or denatured LbpB to some extent. Mice inoculated with the protein mounted a strong response to it and showed cross protection against heterologous strains of *N. meningitidis*. Antibody also reacted strongly with a protein of *Moraxella catarrhalis*.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 19 OF 19 HCPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1997:246716 HCPLUS  
DOCUMENT NUMBER: 126:329201  
TITLE: Highly conserved *Neisseria meningitidis* surface protein confers protection against experimental infection  
AUTHOR(S): Martin, Denis; Cadieux, Nathalie; Hamel, Josee; Brodeur, Bernard R.  
CORPORATE SOURCE: Unite de Recherche en Vaccinologie, Centre de Recherche en Infectiologie, Centre Hospitalier Universitaire de Quebec, Ste-Foy, QC, G1V 4G2, Can.  
SOURCE: Journal of Experimental Medicine (1997), 185(7), 1173-1183  
CODEN: JEMEAV; ISSN: 0022-1007  
PUBLISHER: Rockefeller University Press  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB A new surface protein, named NspA, which is distinct from the previously described *Neisseria meningitidis* outer membrane proteins was identified. An NspA-specific mAb, named Me-1, reacted with 99% of the meningococcal strains tested indicating that the epitope recognized by this particular mAb is widely distributed and highly conserved. Western immunoblotting expts. indicated that mAb Me-1 is directed against a protein band with an approx. mol. mass of 22,000, but also recognized a minor protein band with an approx. mol. mass of 18,000. This mAb exhibited bactericidal activity against four meningococcal strains, two isolates of serogroup B, and one isolate from each serogroup A and C, and passively protected mice against an exptl. infection. To further characterize the NspA protein and to evaluate the protective potential of recombinant NspA protein, the nspA gene was identified and cloned into a low copy expression vector. Nucleotide sequencing of the meningococcal insert revealed an ORF of 525 nucleotides coding for a polypeptide of 174 amino acid residues, with a predicted mol. wt. of 18,404 and a isoelec. point of 9.93. Three injections of either 10 or 20 .mu.g of the affinity-purified recombinant NspA protein efficiently protected 80% of the mice against a meningococcal deadly challenge comparatively to the 20% obsd. in the control groups. The fact that the NspA protein can elicit the prodn. of bactericidal and protective antibodies emphasize its potential as a vaccine candidate.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 10:03:12 ON 14 NOV 2002)

L18 1 S L9

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L19 61 S L16  
L20 62 S L18 OR L19  
L21 31 DUP REM L20 (31 DUPLICATES REMOVED)

L21 ANSWER 1 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2002-463368 [49] WPIDS  
DOC. NO. CPI: C2002-131769  
TITLE: Analyzing gene expression in a microorganism,  
useful for identifying pathogens (e.g. E. coli or  
Vibrio spp.) or anti-infective agents by exposing  
the microorganism to a lipid bilayer not associated  
with protein or RNA synthesis.  
DERWENT CLASS: B04 D16  
INVENTOR(S): FRANKEL, G M; KNUTTON, S  
PATENT ASSIGNEE(S): (IMCO-N) IMPERIAL COLLEGE INNOVATIONS LTD  
COUNTRY COUNT: 97  
PATENT INFORMATION:

| PATENT NO     | KIND  | DATE               | WEEK | LA | PG |
|---------------|---|--------------------|------|----|----|
| WO 2002034952 | A2  | 20020502 (200249)* | EN   | 81 |    |
| RW:           | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC |                    |      |    |    |
| MW            | MZ NL OA PT SD SE SL SZ TR TZ UG ZW                         |                    |      |    |    |
| W:            | AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ |                    |      |    |    |
| DE            | DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP    |                    |      |    |    |
| KE            | KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ    |                    |      |    |    |
| NO            | NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG    |                    |      |    |    |
| US            | UZ VN YU ZA ZW  |                    |      |    |    |
| AU            | 2001095767 A  | 20020506 (200257)  |      |    |    |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2002034952 | A2   | WO 2001-GB4684 | 20011022 |
| AU 2001095767 | A    | AU 2001-95767  | 20011022 |

FILING DETAILS:

| PATENT NO       | KIND     | PATENT NO    |
|-----------------|----------|--------------|
| AU 2001095767 A | Based on | WO 200234952 |

PRIORITY APPLN. INFO: GB 2000-26459 20001028  
AN 2002-463368 [49] WPIDS  
AB WO 200234952 A UPAB: 20020802  
NOVELTY - Analyzing gene expression occurring in a microorganism  
before, during or after contact with or adhesion of the  
microorganism to a lipid bilayer comprises exposing the  
microorganism to a lipid bilayer that is substantially not  
associated with protein or RNA synthetic machinery.  
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for  
the following:  
(1) a method (M1) of analyzing the interaction between a  
microorganism and a lipid bilayer by employing the method above and  
determining whether any microorganism component has been transferred  
to the lipid bilayer;  
(2) a kit comprising the lipid bilayer, and a nucleic acid

microarray and/or protein microarray;

(3) a method (M2) of identifying a gene of a microorganism, the expression of which differs in the presence or absence of contact and/or adhesion of the microorganism to a lipid bilayer by:

(a) employing (M1);

(b) comparing the expression of at least one gene inn the presence or absence of the contact and/or adhesion; and

(c) selecting a gene whose expression is different in the presence or absence of contact and/or adhesion of the microbe to a lipid bilayer;

(4) a method of selecting a target for development or identification of an anti-infective agent or vaccine, by performing (M2), and selecting as a target a product of a gene whose expression is identified as differing in the presence and absence of contact and/or adhesion;

(5) a microorganism in which a gene (identified in M2) is mutated or overexpressed;

(6) a gene identified in (M2);

(7) a polypeptide encoded by the identified gene;

(8) a method (M3) of identifying a compound that reduces the ability of a microorganism to adhere to a host cell by selecting a compound that interferes with the function of the gene or the polypeptide cited above;

(9) a compound identified or identifiable by (M3);

(10) a molecule that selectively interacts with, and substantially inhibits the function of the gene or its nucleic acid product, or the polypeptide;

(11) a method of treating a host which has, or is susceptible to, an infection with a microorganism, by administering the molecule, compound, polypeptide or polynucleotide cited above, where the gene is present in the microorganism or is a close relative of the microorganism;

(12) a pharmaceutical composition having the molecule, compound, polynucleotide, polypeptide or microorganism cited above, and a pharmaceutical carrier; and

(13) a method of detecting and/or characterizing a microorganism (e.g. bacteria) by determining the presence/absence and/or expression of the gene (identified in M2) in a sample.

ACTIVITY - Antibacterial; Antifungal. No biodata is given.

MECHANISM OF ACTION - Vaccine.

USE - The method is particularly useful for identifying a bacterium or a fungus that is pathogenic to animals. The bacterium may be an Escherichia coli (e.g. enterohemorrhagic E. coli (EHEC) or enteropathogenic E. coli (EPEC)). In particular, the bacterium is EPEC strain E2348/69 or EHEC strain 85-170 (O157:H7). The bacterium may also be Helicobacter pylori, Bordetella pertussis, Campylobacter jejuni, Clostridium botulinum, Haemophilus ducreyi, H. influenzae, Klebsiella pneumoniae, Legionella pneumophila, Listeria spp., Neisseria gonorrhoeae, N. meningitidis, Pseudomonas spp., Salmonella spp., Shigella spp., Staphylococcus aureus, Streptococcus pyogenes, S. pneumoniae, Vibrio spp. or Yersinia pestis. The fungus may be Aspergillus spp., Cryptococcus neoformans or Histoplasma capsulatum. The compound identified by M3 is useful for treating infection of a host organism with the microorganism. The **polypeptide or polynucleotide** encoding the **polypeptide**, or microorganism expressing the **polypeptide** is useful for manufacturing a medicament for **vaccination** of a host, which has or is susceptible to, an

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infection with a microorganism, where the gene is present in the microorganism or is a close relative of the microorganism. A molecule that selectively interacts with, and substantially inhibits the function of the gene or its nucleic acid product, or the **polypeptide**, the compound cited, the **polypeptide** or the **polynucleotide** encoding the **polypeptide** is useful in medicine (all claimed). The method is also useful in screening assays to identify anti-infective agents (e.g. antibacterial agents or **vaccines**) and their targets.

Dwg.0/8

L21 ANSWER 2 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2002-435299 [46] WPIDS  
DOC. NO. CPI: C2002-123609  
TITLE: Novel vaccine comprising a bacterium containing DNA sequences encoding site-specific recombinase, a plasmid comprising a recognition element for recombinase and a DNA sequence encoding a heterologous polypeptide.  
DERWENT CLASS: B04 D16  
INVENTOR(S): STEPHENS, J C; TURNER, A K  
PATENT ASSIGNEE(S): (ACAM-N) ACAMBIS RES LTD  
COUNTRY COUNT: 97  
PATENT INFORMATION:

| PATENT NO     | KIND  | DATE               | WEEK | LA | PG |
|---------------|---|--------------------|------|----|----|
| WO 2002028423 | A1  | 20020411 (200246)* | EN   | 59 |    |
| RW:           | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC |                    |      |    |    |
| MW            | MZ NL OA PT SD SE SL SZ TR TZ UG ZW                         |                    |      |    |    |
| W:            | AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ |                    |      |    |    |
| DE            | DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP    |                    |      |    |    |
| KE            | KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ    |                    |      |    |    |
| NO            | NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG    |                    |      |    |    |
| US            | UZ VN YU ZA ZW  |                    |      |    |    |
| AU            | 2001092051 A 20020415 (200254)                              |                    |      |    |    |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2002028423 | A1   | WO 2001-GB4382 | 20011002 |
| AU 2001092051 | A    | AU 2001-92051  | 20011002 |

FILING DETAILS:

| PATENT NO       | KIND     | PATENT NO    |
|-----------------|----------|--------------|
| AU 2001092051 A | Based on | WO 200228423 |

PRIORITY APPLN. INFO: GB 2000-24203 20001003  
AN 2002-435299 [46] WPIDS  
AB WO 200228423 A UPAB: 20020722  
NOVELTY - A vaccine (I) comprising a bacterium containing a DNA sequence encoding a site-specific recombinase, a plasmid comprising a recognition element for the recombinase and a DNA sequence encoding a heterologous polypeptide, is new.  
ACTIVITY - None given.

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MECHANISM OF ACTION - Vaccine.

No supporting data given.

USE - (I) Is useful for vaccinating a human or animal, for the manufacture of a medicament for vaccinating a human or animal, and for raising an immune response in a human or animal host (claimed).

ADVANTAGE - The modified plasmid is significantly more stable when expressed in live attenuated bacteria grown in the absence of antibiotic selection than the parental plasmid it was derived from. The plasmid containing the cassette was also found to be more stable than the parental plasmid when both were expressed in attenuated bacteria and antibiotic selection applied.

Dwg.0/10

L21 ANSWER 3 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2002-041720 [05] WPIDS  
DOC. NO. CPI: C2002-011941  
TITLE: New polypeptide useful as vaccine  
for immunizing animals against bacterial  
infections, is encoded by genes from  
*Neisseria meningitidis* and  
polynucleotides for obtaining  
microorganisms having reduced ability to uptake  
DNA.  
DERWENT CLASS: B04 D16  
INVENTOR(S): TANG, C  
PATENT ASSIGNEE(S): (MICR-N) MICROSCIENCE LTD  
COUNTRY COUNT: 96  
PATENT INFORMATION:

| PATENT NO     | KIND   | DATE               | WEEK | LA | PG |
|---------------|--|--------------------|------|----|----|
| WO 2001087939 | A2   | 20011122 (200205)* | EN   | 55 |    |
| RW:           | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC<br>MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW  |                    |      |    |    |
| W:            | AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ<br>DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP<br>KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ<br>NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US<br>UZ VN YU ZA ZW |                    |      |    |    |
| AU            | 2001058579 A   | 20011126 (200222)  |      |    |    |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2001087939 | A2   | WO 2001-GB2247 | 20010518 |
| AU 2001058579 | A    | AU 2001-58579  | 20010518 |

FILING DETAILS:

| PATENT NO       | KIND     | PATENT NO    |
|-----------------|----------|--------------|
| AU 2001058579 A | Based on | WO 200187939 |

PRIORITY APPLN. INFO: GB 2000-12079 20000518  
AN 2002-041720 [05] WPIDS  
AB WO 200187939 A UPAB: 20020123  
NOVELTY - A peptide (I) encoded by an operon having a sequence (S1)

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of 2040, 1257, 599, 1773, 1572, 1185, 804, 2391, 252, 789 or 132 base pairs as given in the specification, or a related molecule having at least 40% sequence similarity or identity at the peptide level or nucleotide level in a Gram-negative bacterium, or their functional fragment for therapeutic or diagnostic use, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a transformation deficient microorganism (II) comprising a mutation that disrupts the expression of a gene (III) comprising a nucleotide sequence (S1) or related molecule having at least 40% sequence identity, for therapeutic use;
- (2) a vaccine (VAC) comprising (II);
- (3) a polynucleotide (IV) encoding (I), or its complement, for therapeutic or diagnostic use; and
- (4) an antibody raised against (I).

ACTIVITY - Antiinflammatory; Antibiotic; Antibacterial. No biological data is provided.

MECHANISM OF ACTION - Vaccine (claimed). No biological data is given.

USE - (I), VAC, (II) and (IV) are useful for manufacture of medicament for use in treatment or prevention of a condition associated with infection by *N. meningitidis* or Gram-negative bacteria e.g. meningitis for veterinary treatment (claimed). (IV) is useful for searching related genes or peptides in other microorganisms. (I) is useful for preparation of antibodies which is used in passive immunization or in diagnostic applications. (III) is useful in generating vaccine strains that cannot take up exogenous DNA and as a target for antimicrobials. (II) is useful as a carrier system for the delivery of heterologous antigens, therapeutic proteins or nucleic acids *in vivo*. (I) and (IV) are useful in screening drugs.

Dwg.0/0

L21 ANSWER 4 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2001-488774 [53] WPIDS  
CROSS REFERENCE: 2001-457721 [49]  
DOC. NO. CPI: C2001-146735  
TITLE: New NhhA surface antigen **polypeptides** and **polynucleotides** from **Neisseria meningitidis**, useful in producing vaccines for treating or preventing broad spectrum of **Neisseria meningitidis**.  
DERWENT CLASS: B04 D16  
INVENTOR(S): JENNINGS, M P; PEAK, I R A  
PATENT ASSIGNEE(S): (UYQU) UNIV QUEENSLAND  
COUNTRY COUNT: 93  
PATENT INFORMATION:

| PATENT NO        | KIND DATE   | WEEK | LA | PG |
|------------------|---|------|----|----|
| WO 2001055182 A1 | 20010802 (200153)*  | EN   | 91 |    |
| RW:              | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW  |      |    |    |
| W:               | AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU |      |    |    |

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ZA ZW  
AU 2001028181 A 20010807 (200174)

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION   | DATE     |
|---------------|------|---------------|----------|
| WO 2001055182 | A1   | WO 2001-AU69  | 20010125 |
| AU 2001028181 | A    | AU 2001-28181 | 20010125 |

FILING DETAILS:

| PATENT NO     | KIND       | PATENT NO    |
|---------------|------------|--------------|
| AU 2001028181 | A Based on | WO 200155182 |

PRIORITY APPLN. INFO: US 2000-177917P 20000125

AN 2001-488774 [53] WPIDS

CR 2001-457721 [49]

AB WO 200155182 A UPAB: 20011217

NOVELTY - An isolated protein comprising twelve or more contiguous conserved amino acids of an NhhA polypeptide, is new. The isolated protein is not a wild-type NhhA polypeptide.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated protein comprising a sequence of residues 1-50, 109-120, 135-198, 221-239, or 249-604 of a 604 residue amino acid sequence, fully defined in the specification, where the isolated protein is not a wild type NhhA polypeptide;

(2) an allelic variant, fragment or derivative of the isolated protein;

(3) a pharmaceutical composition comprising one or more isolated proteins;

(4) an isolated nucleic acid, encoding the novel polypeptide, or the polypeptide of (1), or (2);

(5) an expression vector which includes the isolated nucleic acid of (4); and

(6) a host cell transformed with the expression vector of (3).

ACTIVITY - Antibacterial.

No biological data is given.

MECHANISM OF ACTION - Vaccine.

USE - The proteins are useful in diagnostics, therapeutic and prophylactic vaccines against a broader spectrum of *N. meningitidis*, and in designing and/or screening of medicaments.

ADVANTAGE - The proteins as a vaccine can effectively immunize against a broader spectrum of *N. meningitidis* strains than would be expected from a corresponding wild-type surface antigen.

Dwg.0/14

L21 ANSWER 5 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2001-138654 [14] WPIDS  
CROSS REFERENCE: 2002-188688 [24]  
DOC. NO. CPI: C2001-041027  
TITLE: New isolated polynucleotide useful for outer membrane vesicle preparation from Gram-negative bacterial strain for vaccination of microbial infections.  
DERWENT CLASS: B04 D16

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INVENTOR(S): BERTHET, F J; DALEMANS, W L J; DENOEL, P; DEQUESNE, G; FERON, C; LOBET, Y; POOLMAN, J; THIRY, G;  
THONNARD, J; VOET, P; DALEMANS, W L; LHONNARD, J  
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS  
COUNTRY COUNT: 95  
PATENT INFORMATION:

| PATENT NO     | KIND   | DATE     | WEEK      | LA | PG  |
|---------------|--|----------|-----------|----|-----|
| WO 2001009350 | A2   | 20010208 | (200114)* | EN | 127 |
| RW:           | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC<br>MW MZ NL OA PT SD SE SL SZ TZ UG ZW   |          |           |    |     |
| W:            | AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE<br>DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG<br>KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ<br>PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN<br>YU ZA ZW |          |           |    |     |
| AU 2000068336 | A  | 20010219 | (200129)  |    |     |
| NO 2002000506 | A  | 20020402 | (200235)  |    |     |
| BR 2000012974 | A  | 20020507 | (200238)  |    |     |
| CZ 2002000403 | A3   | 20020515 | (200241)  |    |     |
| EP 1208214    | A2   | 20020529 | (200243)  | EN |     |
| R:            | AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK<br>NL PT RO SE SI  |          |           |    |     |
| KR 2002027514 | A  | 20020413 | (200267)  |    |     |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2001009350 | A2   | WO 2000-EP7424 | 20000731 |
| AU 2000068336 | A    | AU 2000-68336  | 20000731 |
| NO 2002000506 | A    | WO 2000-EP7424 | 20000731 |
|               |      | NO 2002-506    | 20020131 |
| BR 2000012974 | A    | BR 2000-12974  | 20000731 |
|               |      | WO 2000-EP7424 | 20000731 |
| CZ 2002000403 | A3   | WO 2000-EP7424 | 20000731 |
|               |      | CZ 2002-403    | 20000731 |
| EP 1208214    | A2   | EP 2000-956369 | 20000731 |
|               |      | WO 2000-EP7424 | 20000731 |
| KR 2002027514 | A    | KR 2002-701441 | 20020201 |

FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO    |
|---------------|-------------|--------------|
| AU 2000068336 | A Based on  | WO 200109350 |
| BR 2000012974 | A Based on  | WO 200109350 |
| CZ 2002000403 | A3 Based on | WO 200109350 |
| EP 1208214    | A2 Based on | WO 200109350 |

PRIORITY APPLN. INFO: GB 1999-18319 19990803

AN 2001-138654 [14] WPIDS

CR 2002-188688 [24]

AB WO 200109350 A UPAB: 20021018

NOVELTY - An isolated polynucleotide sequence which hybridizes under highly stringent conditions to at least a 30 nucleotide portion of 80 sequences described in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

(1) a genetically-engineered outer membrane vesicle (bleb) preparation from a Gram-negative bacterial strain characterized in that the preparation is obtainable by employing a process comprising:

- (a) introducing a heterologous gene, optionally controlled by a strong promoter sequence, into the chromosome by homologous recombination; and
- (b) making blebs from the strain;
- (2) a vaccine comprising a bleb preparation and a pharmaceutically acceptable excipient;
- (3) a vector suitable for performing recombination events;
- (4) a modified Gram-negative bacterial strain from which the bleb preparation is made;
- (5) an immuno-protective and non-toxic Gram-negative bleb, ghost, or killed whole cell vaccine suitable for paediatric use.

ACTIVITY - Antiviral; Antibacterial; Antifungal.

Animals were immunized three times with 5 micro g of the different OMVs absorbed on Al(OH)<sub>3</sub> on days 0, 14, and 28. Bleedings were done on days 28 and 35, and they were challenged on day 35. The challenge dose was 20 X LD<sub>50</sub> (approx. 10 to the power of 7 CFU/mouse). Mortality rate was monitored for 7 days after challenge.

OMVs injected were:

Group1: Cps-, PorA+  
Group2: Cps-, PorA-  
Group3: Cps-, PorA-, NspA+  
Group4: Cps-, PorA-, Omp85+  
Group5: Cps-, PorA-, Hsf+

24 hours after the challenge, there was 100% mortality in the negative control group, while mice immunized with the 5 different OMVs preparations were still alive. Sickness was also monitored during the 7 days and the mice immunized with the NSPA over-expressed blebs appeared to be less sick than the other groups. PorA present in PorA+ blebs is likely to confer extensive protection against infection by the homologous strain. However, protection induced by PorA-up-regulated blebs is likely to be due at least to some extent, to the presence of increased amount of NspA, OMP85 or Hsf.

MECHANISM OF ACTION - Vaccine.

USE - The claimed polynucleotide sequence is used in performing a homologous recombination event within 1000 base pairs upstream of a Gram-negative bacterial chromosomal gene in order to either increase or decrease expression of the gene. The bleb preparation is useful in the manufacture of a medicament for immunizing a human host against a disease caused by infection of one or more of the following: *Neisseria meningitidis*, *Neisseria gonorrhoeae*, *Haemophilus influenza*, *Moraxella catarrhalis*, *Pseudomonas aeruginosa*, *Chlamydia trachomatis*, and *Chlamydia pneumonia*. The invention is useful for immunizing a human host against the diseases caused by the above. The invention also provides immunization against the influenza virus. Immuno-protective and non-toxic Gram-negative bleb, ghost, or killed whole cell vaccines are useful for paediatric use (all claimed).

ADVANTAGE - The vaccine is more immunogenic, less toxic, and safer.

Dwg.0/17

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L21 ANSWER 6 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2001-082916 [10] WPIDS  
DOC. NO. NON-CPI: N2001-063334  
DOC. NO. CPI: C2001-024200  
TITLE: Immunogenic polypeptides derived from *Neisseria meningitidis* and the nucleic acids that encode them, useful for diagnosing and vaccinating against *Neisseria* infections e.g. bacteremia and meningitis.  
DERWENT CLASS: B04 D16 S03  
INVENTOR(S): NASSIF, X; TINSLEY, C; ACHTMAN, M; KLEE, S; MERKER, P  
PATENT ASSIGNEE(S): (INRM) INSERM INST NAT SANTE & RECH MEDICALE;  
(PLAC) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN  
COUNTRY COUNT: 95  
PATENT INFORMATION:

| PATENT NO     | KIND | DATE   | WEEK | LA  | PG |
|---------------|------|--|------|-----|----|
| EP 1069133    | A1   | 20010117 (200110)*   | EN   | 232 |    |
|               | R:   | AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI   |      |     |    |
| WO 2001004150 | A2   | 20010118 (200110)  | EN   |     |    |
|               | RW:  | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW  |      |     |    |
|               | W:   | AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW |      |     |    |
| AU 2000068254 | A    | 20010130 (200127)  |      |     |    |
| EP 1194446    | A2   | 20020410 (200232)  | EN   |     |    |
|               | R:   | AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI   |      |     |    |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| EP 1069133    | A1   | EP 1999-401764 | 19990713 |
| WO 2001004150 | A2   | WO 2000-EP6943 | 20000705 |
| AU 2000068254 | A    | AU 2000-68254  | 20000705 |
| EP 1194446    | A2   | EP 2000-956222 | 20000705 |
|               |      | WO 2000-EP6943 | 20000705 |

FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO    |
|---------------|-------------|--------------|
| AU 2000068254 | A Based on  | WO 200104150 |
| EP 1194446    | A2 Based on | WO 200104150 |

PRIORITY APPLN. INFO: EP 1999-401764 19990713  
AN 2001-082916 [10] WPIDS  
AB EP 1069133 A UPAB: 20010220  
NOVELTY - Immunologically active polypeptides (I) derived from the Gram negative bacteria *Neisseria meningitidis*, and the nucleic acids (II) that encode them, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) an isolated polypeptide (I) comprising an amino acid sequence that has at least 70% identity to 44 defined amino acid sequences ((A1)-(A44)) given in the specification;
- (2) an immunogenic fragment of (I) which comprises (A1)-(A44);
- (3) an isolated polynucleotide (II) comprising a nucleotide sequence encoding (I) (which has at least 70% to (A1)-(A44) over its entire length), or a sequence complementary to (II);
- (4) an expression vector (III) or a recombinant live microorganism comprising (II);
- (5) a host cell (IV) comprising (III), or a membrane of (IV), that expresses a polypeptide comprising an amino acid sequence with at least 70% identity to (A1)-(A44);
- (6) a process (V) for producing a polypeptide comprising an amino acid sequence with at least 70% identity to (A1)-(A44), comprising culturing the host cell (IV) under suitable conditions for expression of the polypeptide and recovering the polypeptide from the culture medium;
- (7) a process (VI) for expressing the polynucleotide (II), comprising transforming a host cell with an expression vector comprising (II) and culturing the host cell under conditions suitable for expression of the polypeptide;
- (8) vaccine compositions (VII) comprising (I) and/or (II);
- (9) antibody (VIII) immuno-specific for (I); and
- (10) a method for diagnosing a *Neisseria* infection, comprising identifying (I) or (VIII) in a sample from the subject animal.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine.

Rabbit antiserum produced in response to vaccination with the polypeptides killed 65% of parenterally administered meningococcus (strain 8013) with in 20 minutes of contact and all of the bacteria within 60 minutes. Pre-immune serum (taken prior to immunization) was found to have killed no bacteria after 20 minutes and only half after 60 minutes.

USE - The nucleic acids and the **polypeptides** they encode may be used to **vaccinate** subjects against infection by ***Neisseria meningitidis*** bacteria according to standard methodologies. The antibodies produced in response to the **polypeptides** and/or **polynucleotides** may also be used to treat ***N. meningitidis*** infections or as diagnostic reagents in immunoassays to detect infections (claimed). ***N. meningitidis*** is a pathogen involved in, for example, bacteremia and meningitis.

Dwg.0/50

|                     |  |
|---------------------|--|
| L21 ANSWER 7 OF 31  | WPIDS (C) 2002 THOMSON DERWENT   |
| ACCESSION NUMBER:   | 2000-602119 [57] WPIDS   |
| DOC. NO. NON-CPI:   | N2000-445497   |
| DOC. NO. CPI:       | C2000-180246   |
| TITLE:              | Novel polypeptides designated BASB 082, 083, 091, 092, and 101 derived from meningococcus bacterium useful for producing vaccines against infections and in diagnostic assays. |
| DERWENT CLASS:      | B04 D16 S03  |
| INVENTOR(S):        | DEFRENNE, C; DELMELLE, C; RUELLE, J  |
| PATENT ASSIGNEE(S): | (SMIK) SMITHKLINE BEECHAM BIOLOGICALS  |
| COUNTRY COUNT:      | 91   |

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PATENT INFORMATION:

| PATENT NO   | KIND | DATE     | WEEK      | LA | PG  |
|---|------|----------|-----------|----|-----|
| WO 2000055327   | A2   | 20000921 | (200057)* | EN | 108 |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC |      |          |           |    |     |
| MW NL OA PT SD SE SL SZ TZ UG ZW                                |      |          |           |    |     |
| W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM  |      |          |           |    |     |
| EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ     |      |          |           |    |     |
| LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU     |      |          |           |    |     |
| SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW        |      |          |           |    |     |
| AU 2000031646   | A    | 20001004 | (200101)  |    |     |
| EP 1163343  | A2   | 20011219 | (200206)  | EN |     |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK  |      |          |           |    |     |
| NL PT RO SE SI  |      |          |           |    |     |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2000055327 | A2   | WO 2000-EP1955 | 20000307 |
| AU 2000031646 | A    | AU 2000-31646  | 20000307 |
| EP 1163343    | A2   | EP 2000-909329 | 20000307 |
|               |      | WO 2000-EP1955 | 20000307 |

FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO    |
|---------------|-------------|--------------|
| AU 2000031646 | A Based on  | WO 200055327 |
| EP 1163343    | A2 Based on | WO 200055327 |

PRIORITY APPLN. INFO: GB 1999-10710 19990507; GB 1999-5815  
19990312; GB 1999-9094 19990421; GB 1999-9503  
19990423; GB 1999-9787 19990428

AN 2000-602119 [57] WPIDS

AB WO 200055327 A UPAB: 20001109

NOVELTY - An isolated polypeptide (I) which has 85 % identity to a Neisseria meningitidis derived BASB 082, 083, 091, 092, or 101 protein having a 758 (S2), 703 (S4), 125 (S6), 287 (S8), and 321 (S10) amino acid sequence respectively, all fully defined in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) an immunogenic fragment of (I);
- (2) an isolated polynucleotide (II), comprising a nucleotide sequence which encodes (I) that has 85 % identity to (S2), (S4), (S6), (S8) or (S10) over the entire length of the polypeptide, or a nucleotide sequence that has 85 % identity to a sequence encoding a polypeptide with (S2), (S4), (S6), (S8) or (S10), or a nucleotide sequence which has 85 % identity to a 2277 (S1), 2112 (S3), 378 (S5), 864 (S7), or 966 (S9) nucleotide sequence, all fully defined in the specification, or a sequence complementary to any of the polynucleotides;
- (3) an expression vector (III) or a recombinant live microorganism comprising (II);
- (4) a host cell (IV) comprising (III) or a subcellular fraction or a membrane of the host cell expressing (I);

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(5) preparation of (I), by culturing (IV) under optimum conditions for the production of the polypeptide which is then recovered from the culture medium;

(6) process for expressing (II) which involves transforming a host cell with the expression vector comprising the polynucleotides and culturing the host cell under expression conditions;

(7) a vaccine composition (V) comprising (I) or (II);

(8) an antibody (VI) immunospecific for (I) or its immunological fragment;

(9) use of a composition comprising (I) or (II) in the preparation of a medicament for use in generating an immune response in an animal; and

(10) a therapeutic composition useful in treating humans with *N. meningitidis* disease comprising (VI).

ACTIVITY - Antibacterial; antiinflammatory. No biological data is given.

MECHANISM OF ACTION - Vaccine; gene therapy.

USE - (I) and (VI) are useful as diagnostic reagents and for diagnosing *N. meningitidis* infection which involves identifying (I) or (VI) in a biological sample from an animal suspected of having an infection (claimed). The immunogenic fragments of (I) are useful for producing antibodies. The **polynucleotides** may be used as hybridization probe for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB082, BASB083, BASB091, BASB092 or BASB101 **polypeptides** and to isolate cDNA and genomic clones of other genes that have a high identity particularly high sequence identity to BASB082, BASB083, BASB091, BASB092 or BASB101 genes. The **vaccine** compositions are useful for inducing an immunological response in humans. The **polynucleotides** encoding BASB082, BASB083, BASB091, BASB092 or BASB101 **polypeptides** are useful in gene therapy to induce an immunological response. The **polypeptides** are useful for treating upper respiratory tract infection, invasive bacterial diseases, such as bacteremia and meningitis.

Dwg.0/0

L21 ANSWER 8 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2000-505978 [45] - WPIDS  
DOC. NO. NON-CPI: N2000-374147  
DOC. NO. CPI: C2000-151912  
TITLE: New isolated polypeptide from *Neisseria meningitidis* is useful for detection and treatment of *N. meningitidis* infection.  
DERWENT CLASS: B04 D16 S03  
INVENTOR(S): THONNARD, J  
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS  
COUNTRY COUNT: 91  
PATENT INFORMATION:

| PATENT NO     | KIND  | DATE     | WEEK      | LA | PG |
|---------------|---|----------|-----------|----|----|
| WO 2000044904 | A1  | 20000803 | (200045)* | EN | 77 |
| RW:           | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT" KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW   |          |           |    |    |
| W:            | AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU |          |           |    |    |

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SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
AU 2000032768 A 20000818 (200057)  
EP 1151107 A1 20011107 (200168) EN  
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK  
NL PT RO SE SI

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2000044904 | A1   | WO 2000-EP561  | 20000125 |
| AU 2000032768 | A    | AU 2000-32768  | 20000125 |
| EP 1151107    | A1   | EP 2000-910610 | 20000125 |
|               |      | WO 2000-EP561  | 20000125 |

FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO    |
|---------------|-------------|--------------|
| AU 2000032768 | A Based on  | WO 200044904 |
| EP 1151107    | A1 Based on | WO 200044904 |

PRIORITY APPLN. INFO: GB 1999-2070 19990129

AN 2000-505978 [45] WPIDS

AB WO 200044904 A UPAB: 20000918

NOVELTY - An isolated polypeptide (I) comprising an amino acid sequence at least 85% identical to the 112 amino acid sequence provided in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) an immunogenic fragment of (I);
- (2) an isolated polynucleotide (II) encoding (I);
- (3) an expression vector (III) or recombinant live microorganism comprising (II);
- (4) expressing (I) comprising transforming a host cell with (III);
- (5) a vaccine comprising (I); and
- (6) an antibody (IV) immunospecific for (I).

ACTIVITY - Antibacterial; immunostimulant.

Partially purified recombinant BASB059 protein expressed in Escherichia coli was injected three times into Balb/C mice on days 0, 14 and 28 (10 animals/group). Animals were injected by the subcutaneous route with 5 micro g of antigen either adsorbed on 100 micro g of AlPO<sub>4</sub> (sic) or formulated in SBAS2 emulsion (SB62 emulsion containing 5 micro g MPL and 5 micro g QS21 per dose). Control mice were injected with the SBAS2 emulsion only. The mice were bled on days 28 and 35 in order to detect specific anti-BASB059 antibodies. Antibodies were detected by enzyme linked immunosorbant assay. Specific anti-BASB059 antibodies were detected with both formulations, but not in the bleed from the control mice.

MECHANISM OF ACTION - Vaccine.

No supporting biological data is given.

USE - (I) and (IV) can be used for diagnosis of Neisseria meningitidis infection. (I) can also be used to generate an immune response. The vaccine can be used to treat N. meningitidis infection.

Dwg.0/4

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L21 ANSWER 9 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2000-505839 [45] WPIDS  
DOC. NO. CPI: C2000-151820  
TITLE: *Neisseria meningitidis* BASB047, BASB054, BASB068,  
and BASB069 proteins, useful for treating N.  
*meningitidis* infections, bacteremia, and  
meningitis.  
DERWENT CLASS: B04 D16  
INVENTOR(S): RUELLE, J  
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS; (SMIK)  
SMITHKLINE BEECHAM BIOLOGICS SA  
COUNTRY COUNT: 91  
PATENT INFORMATION:

| PATENT NO     | KIND  | DATE     | WEEK      | LA | PG  |
|---------------|---|----------|-----------|----|-----|
| WO 2000043519 | A2  | 20000727 | (200045)* | EN | 103 |
| RW:           | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC<br>MW NL OA PT SD SE SL SZ TZ UG ZW   |          |           |    |     |
| W:            | AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM<br>EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ<br>LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU<br>SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW |          |           |    |     |
| AU 2000021097 | A   | 20000807 | (200055)  |    |     |
| EP 1149164    | A2  | 20011031 | (200172)  | EN |     |
| R:            | AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK<br>NL PT RO SE SI   |          |           |    |     |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2000043519 | A2   | WO 2000-EP428  | 20000119 |
| AU 2000021097 | A    | AU 2000-21097  | 20000119 |
| EP 1149164    | A2   | EP 2000-901121 | 20000119 |
|               |      | WO 2000-EP428  | 20000119 |

FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO    |
|---------------|-------------|--------------|
| AU 2000021097 | A Based on  | WO 200043519 |
| EP 1149164    | A2 Based on | WO 200043519 |

PRIORITY APPLN. INFO: GB 1999-3535 19990216; GB 1999-1368  
19990122; GB 1999-1944 19990128; GB 1999-2086  
19990129; GB 1999-3417 19990215

AN 2000-505839 [45] WPIDS

AB WO 200043519 A UPAB: 20000918

NOVELTY - An isolated polypeptide comprising an amino acid sequence which has at least 85% identity to a 400, 802, 671, or 691 residue *Neisseria meningitidis* BASB047, BASB054, BASB068, and BASB069 amino acid sequence (I-IV), all fully defined in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polypeptide having any of (I-IV), or its immunogenic fragment;

- (2) n isolated polynucleotide comprising a nucleotide sequence encoding a polypeptide that has at least 85 % identity to any of (I-IV), or its complement;
- (3) an isolated polynucleotide comprising a nucleotide sequence that has at least 85% identity to a nucleotide sequence encoding any of (I-IV), or its complement;
- (4) an isolated polynucleotide which comprises a nucleotide sequence which has at least 85 % identity to the 1203, 2409, 2016, or 2076 base pair DNA sequences (V-VIII), all fully defined in the specification over their entire length, or its complement;
- (5) an isolated polynucleotide comprising a nucleotide sequence encoding any of (I-IV);
- (6) an isolated polynucleotide comprising any of (V-VIII);
- (7) an isolated polynucleotide comprising a nucleotide sequence encoding any of (I-IV), obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having any of (V-VIII), or a fragment of them;
- (8) an expression vector or recombinant live microorganism comprising an isolated polynucleotide of (3)-(8);
- (9) a host cell comprising the expression vector of (9) or a subcellular fraction or a membrane of the host cell expressing an isolated polypeptide comprising an amino acid sequence that has at least 85 % identity to any of (I-IV);
- (10) a process for producing a polypeptide comprising an amino acid sequence that has at least 85 % identity to any of (I-IV), comprising culturing a host cell of (10) under expression conditions, and recovering the polypeptide from the culture medium;
- (11) a process for expressing a polynucleotide of (3)-(8) comprising transforming a host cell with the expression vector, comprising at least one of the polynucleotides and culturing the host cell under expression conditions;
- (12) a vaccine composition comprising the novel peptide, or the peptide of (1), and a carrier;
- (13) a vaccine composition, comprising the polynucleotide of (3)-(8) and a carrier;
- (14) an antibody immunospecific for the novel polypeptide, or the polypeptide of (1), or their immunological fragments;
- (15) diagnosing a *Neisseria meningitidis* infection, comprising identifying a the novel polypeptide, the polypeptide of (1), or an antibody that is immunospecific for the polypeptide, present within a biological sample from an animal suspected of having such an infection; and
- (16) a therapeutic composition useful in treating humans with *Neisseria meningitidis* disease comprising at least one antibody of (14), and a carrier.

ACTIVITY - Antibacterial; antiinflammatory. No biological data is given.

MECHANISM OF ACTION - Vaccine.

USE - The **polynucleotide** sequence can be used to create a vector to transform a host cell. The host cell can be used to produce the **polypeptide**. The **polynucleotide** and **polypeptide** can be used in **vaccine** compositions. The **polynucleotide**, **polypeptide**, and the antibody directed against the **polypeptide** can be used in compositions for preparation of medicaments. The antibodies can also be used in a composition for treating humans with **Neisseria meningitidis** disease (all claimed). The disease that can be treated include upper respiratory tract

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infection, and invasive bacterial diseases such as bacteremia and meningitis. The nucleic acid sequences can be used as probes in the diagnosis of **Neisseria meningitidis** disease.

Dwg.0/0

L21 ANSWER 10 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2000-476199 [41] WPIDS  
DOC. NO. NON-CPI: N2000-355239  
DOC. NO. CPI: C2000-142844  
TITLE: Isolated BASB055 **polypeptides**,  
**polynucleotides**, and antibodies, the  
**polypeptides** and **polynucleotides**  
are useful as **vaccines** for treating and  
diagnosing a microbial infection such as a  
**Neisseria meningitidis** infection.  
DERWENT CLASS: B04 D16 S03  
INVENTOR(S): THONNARD, J  
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS  
COUNTRY COUNT: 91  
PATENT INFORMATION:

| PATENT NO     | KIND  | DATE               | WEEK | LA | PG |
|---------------|---|--------------------|------|----|----|
| WO 2000043517 | A1  | 20000727 (200041)* | EN   | 77 |    |
| RW:           | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC<br>MW NL OA PT SD SE SL SZ TZ UG ZW   |                    |      |    |    |
| W:            | AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM<br>EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ<br>LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU<br>SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW |                    |      |    |    |
| AU 2000024393 | A   | 20000807 (200055)  |      |    |    |
| EP 1149165    | A1  | 20011031 (200172)  | EN   |    |    |
| R:            | AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK<br>NL PT RO SE SI   |                    |      |    |    |
| CN 1344322    | A   | 20020410 (200249)  |      |    |    |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2000043517 | A1   | WO 2000-EP425  | 20000119 |
| AU 2000024393 | A    | AU 2000-24393  | 20000119 |
| EP 1149165    | A1   | EP 2000-902623 | 20000119 |
|               |      | WO 2000-EP425  | 20000119 |
| CN 1344322    | A    | CN 2000-805306 | 20000119 |

FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO    |
|---------------|-------------|--------------|
| AU 2000024393 | A Based on  | WO 200043517 |
| EP 1149165    | A1 Based on | WO 200043517 |

PRIORITY APPLN. INFO: GB 1999-2069 19990129; GB 1999-1462  
19990122  
AN 2000-476199 [41] WPIDS  
AB WO 200043517 A UPAB: 20000831  
NOVELTY - An isolated BASB055 polypeptide comprising a defined 412

amino acid sequence (P1) (given in the specification) or a sequence with at least 80% homology to P1, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated BASB055 polynucleotide (N1) comprising a defined 1239 base pair (bp) sequence (given in the specification) encoding P1;

(2) an expression vector or a recombinant live microorganism comprising N1;

(3) a process for expressing N1 comprising transforming and culturing a host cell with the vector of (2);

(4) a vaccine composition comprising P1 or N1;

(5) an antibody immunospecific for P1; and

(6) a method (M1) for diagnosing a *Neisseria meningitidis* infection, comprising identifying P1, or an antibody to it, in a sample obtained from an animal suspected of having the infection.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine.

Partially purified recombinant BASB055 protein expressed in *Escherichia coli* was injected three times in Balb/C mice on days 0, 14 and 28 (10 animals/group) of a trial. Animals were injected by the subcutaneous route with 5 micro g of antigen in two different formulations, either adsorbed on 100 micro g AIPO4 or formulated in SBAS2 emulsion. A negative control group consisting of mice immunized with the SBAS2 emulsion only was also added in the experiment. Mice were bled on days 28 and 35 in order to detect specific anti-BASB055 antibodies. Specific anti-BASB055 antibodies were measured by enzyme linked immunosorbent assay (ELISA) on partially purified BASB055 protein as well as on *E. coli* proteins. Antibody responses were also evaluated by western-blotting when tested against different *Neisseria meningitidis* B strains. Pooled sera from both formulations were tested in these assays. Results indicated that the antibody response was good, while the anti-*E. coli* antibody response, which was clearly positive, was much lower than the specific BASB055 response. The AIPO4 formulation induced the highest antibody levels. Western-blots confirmed that the BASB protein was well recognized at the expected molecular weight of 50 kilodaltons (kDa) by immunized mice sera.

USE - The BASB055 polypeptides and polynucleotides are useful for diagnosing and treating microbial infections such as a *Neisseria meningitidis* infection.

Dwg.0/5

L21 ANSWER 11 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
 ACCESSION NUMBER: 2000-476062 [41] WPIDS  
 DOC. NO. CPI: C2000-142797  
 TITLE: New *Neisseria meningitidis* polypeptide useful for diagnosis of *Neisseria* infection and for development of vaccines against such infection.  
 DERWENT CLASS: B04 D16  
 INVENTOR(S): RUELLE, J  
 PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS  
 COUNTRY COUNT: 91  
 PATENT INFORMATION:

| PATENT NO     | KIND | DATE     | WEEK      | LA | PG |
|---------------|------|----------|-----------|----|----|
| WO 2000042193 | A1   | 20000720 | (200041)* | EN | 92 |

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RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC  
MW NL OA PT SD SE SL SZ TZ UG ZW  
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM  
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ  
LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU  
SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
AU 2000021074 A 20000801 (200054)  
EP 1144643 A1 20011017 (200169) EN  
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK  
NL PT RO SE SI

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2000042193 | A1   | WO 2000-EP137  | 20000110 |
| AU 2000021074 | A    | AU 2000-21074  | 20000110 |
| EP 1144643    | A1   | EP 2000-901085 | 20000110 |
|               |      | WO 2000-EP137  | 20000110 |

FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO    |
|---------------|-------------|--------------|
| AU 2000021074 | A Based on  | WO 200042193 |
| EP 1144643    | A1 Based on | WO 200042193 |

PRIORITY APPLN. INFO: GB 1999-1903 19990128; GB 1999-959  
19990115

AN 2000-476062 [41] WPIDS

AB WO 200042193 A UPAB: 20000831

NOVELTY - An isolated polypeptide (I) comprising a fully defined 722 or 691 amino acid (aa) sequence, or a sequence with at least 85% identity to the fully defined 722 or 691 aa sequence, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide (II) encoding (I) or its antisense sequence, comprising the fully defined 2169 or 2078 base pair (bp) sequence or a sequence with at least 85% identity to the fully defined 2169 or 2078 bp sequence;

(2) an immunogenic fragment (III) of (I) in which its immunogenic activity is the same as that of (I);

(3) an expression vector (IV) or a recombinant live microorganism (V) comprising (II);

(4) a host cell (VI) comprising (IV) or a subcellular fraction or membrane of (VI) expressing (I);

(5) expressing (II) and producing (I);

(6) a vaccine (VII) comprising (I) or (II) with a carrier; and

(7) an antibody immunospecific for (I) or (III).

ACTIVITY - Immunostimulant; antibacterial.

MECHANISM OF ACTION - Vaccine.

USE - (I) or an antibody immunospecific for (I) may be identified in a biological sample in order to diagnose a *Neisseria meningitidis* infection in an animal. (I) and (II) may be used in a medicament used for generating an immune response in an animal. A composition comprising at least one antibody immunospecific for (I) may be used to treat humans infected with *Neisseria meningitidis* (all claimed).

09/889267

Dwg.0/0

L21 ANSWER 12 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2000-423426 [36] WPIDS  
DOC. NO. NON-CPI: N2000-315920  
DOC. NO. CPI: C2000-128245  
TITLE: Novel **BASB040** polypeptides of  
**Neisseria meningitidis** useful for  
diagnostic, prophylactic and therapeutic purposes  
against microbial diseases comprise a specific  
amino acid sequence.  
DERWENT CLASS: B04 C06 D16 S03  
INVENTOR(S): RUELLE, J  
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS; (SMIK)  
SMITHKLINE BEECHAM BIOLOGICS SA  
COUNTRY COUNT: 91  
PATENT INFORMATION:

| PATENT NO        | KIND  | DATE | WEEK | LA | PG |
|------------------|---|------|------|----|----|
| WO 2000034480 A1 | 20000615 (200036)*  | EN   | 98   |    |    |
| RW:              | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC<br>MW NL OA PT SD SE SL SZ TZ UG ZW   |      |      |    |    |
| W:               | AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM<br>EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ<br>LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU<br>SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW |      |      |    |    |
| AU 2000017803 A  | 20000626 (200045)   |      |      |    |    |
| EP 1137778       | A1 20011004 (200158)  | EN   |      |    |    |
| R:               | AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK<br>NL PT RO SE SI   |      |      |    |    |

APPLICATION DETAILS:

| PATENT NO        | KIND | APPLICATION    | DATE     |
|------------------|------|----------------|----------|
| WO 2000034480 A1 |      | WO 1999-EP9560 | 19991202 |
| AU 2000017803 A  |      | AU 2000-17803  | 19991202 |
| EP 1137778 A1    |      | EP 1999-961063 | 19991202 |
|                  |      | WO 1999-EP9560 | 19991202 |

FILING DETAILS:

| PATENT NO       | KIND        | PATENT NO    |
|-----------------|-------------|--------------|
| AU 2000017803 A | Based on    | WO 200034480 |
| EP 1137778      | A1 Based on | WO 200034480 |

PRIORITY APPLN. INFO: GB 1998-26886 19981207  
AN 2000-423426 [36] WPIDS  
AB WO 200034480 A UPAB: 20000801  
NOVELTY - An isolated polypeptide (I) comprising at least 85%  
identity to a 609, 609 or 587 residue **BASB040** amino acid  
sequence, of **Neisseria meningitidis** strains  
ATCC13090, H44, and H76, respectively, all fully defined in the  
specification, is new.  
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for  
the following:

- (1) an isolated polypeptide **BASB040** having the 609, 609 or 587 amino acid sequences;
- (2) an immunogenic fragment of (Ia) with the same immunogenic activity of (Ia);
- (3) an isolated polynucleotide (II) comprising a nucleotide sequence encoding (I) over its entire length, or its complement;
- (4) an isolated polynucleotide (IIa) comprising a nucleotide sequence encoding (Ia);
- (5) an isolated polynucleotide (IIb) comprising a nucleotide sequence having at least 85% identity to an 1830 or 1764 nucleotide sequence, both fully defined in the specification, or its complement;
- (6) an isolated polynucleotide comprising (IIc) obtainable by screening an appropriate library under stringent hybridization conditions with labeled probe having (IIa);
- (7) an expression vector (III), or a recombinant live microorganism, comprising (II)-(IIc);
- (8) a host cell (IV) comprising (III) or a subcellular fraction or a membrane of (IV) expressing (I);
- (9) producing (I), comprising culturing (IV) under expression conditions and recovering the polypeptide from the medium;
- (10) expressing (II)-(IIc) by transforming (IV) and culturing under expression conditions;
- (11) a vaccine composition (V) comprising (I) or (II)-(IIc);
- (12) an antibody (Ab) immunospecific for (I) or (Ia) or its immunological fragment; and
- (13) a therapeutic composition (T) comprising (Ab).

ACTIVITY - Antibacterial; antimicrobial.

MECHANISM OF ACTION - Vaccine. No supporting data given.

USE - (V) is useful for preparing a medicament to generate an immune response in an animal (claimed). (I) and Ab are useful for diagnosing **Neisseria meningitidis** infection by identifying the presence of (I) or Ab within a biological sample from an animal suspected of having such an infection (claimed). (T) is useful for treating humans with **Neisseria meningitidis** (claimed). (II) has utility in diagnosis of the stage, and type, of infection and also for therapeutic or prophylactic purposes, in particular genetic immunization.

Dwg. 0/2

L21 ANSWER 13 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
 ACCESSION NUMBER: 2000-423415 [36] WPIDS  
 DOC. NO. CPI: C2000-128234  
 TITLE: Isolated nucleic acid molecule for eliciting immune response in mammal encodes **Neisseria meningitidis** heat shock protein 70, **Aspergillus fumigatus Hsp60** and **Candida glabrata Hsp60** polypeptide.  
 DERWENT CLASS: B04 D16  
 INVENTOR(S): WISNIEWSKI, J  
 PATENT ASSIGNEE(S): (STRE-N) STRESSGEN BIOTECHNOLOGIES CORP  
 COUNTRY COUNT: 90  
 PATENT INFORMATION:

| PATENT NO   | KIND DATE | WEEK | LA | PG |
|---|-----------|------|----|----|
| WO 2000034465 A2 20000615 (200036)*                             | EN        | 118  |    |    |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC |           |      |    |    |
| MW NL OA PT SD SE SL SZ TZ UG ZW                                |           |      |    |    |

09/889267

W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM  
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ  
LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU  
SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW  
AU 2000015408 A 20000626 (200045)  
EP 1137770 A2 20011004 (200158) EN  
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK  
NL PT RO SE SI

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2000034465 | A2   | WO 1999-CA1152 | 19991201 |
| AU 2000015408 | A    | AU 2000-15408  | 19991201 |
| EP 1137770    | A2   | EP 1999-957790 | 19991201 |
|               |      | WO 1999-CA1152 | 19991201 |

FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO    |
|---------------|-------------|--------------|
| AU 2000015408 | A Based on  | WO 200034465 |
| EP 1137770    | A2 Based on | WO 200034465 |

PRIORITY APPLN. INFO: US 1998-207388 19981208

AN 2000-423415 [36] WPIDS

AB WO 200034465 A UPAB: 20000801

NOVELTY - An isolated nucleic acid molecule encoding *Neisseria meningitidis* heat shock protein (Hsp) 70 (I), *Aspergillus fumigatus* Hsp60 (II) or *Candida glabrata* Hsp60 (III) polypeptide, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated nucleic acid selected from a 2465, 1929 or 1989 base pair sequence, nucleotides 357-2286 of the 2465 base pair sequence (bps), or nucleotides 4-1932 of a 1932 bps, all fully defined in the specification, and their complements;

(2) an isolated nucleic acid molecule comprising a nucleotide sequence identical to a segment of contiguous nucleotide bases comprising at least 25% of a 2465 bps at position 358-2286, a 1932 bps, a 1929 bps or 1989 bps or a complement;

(3) an isolated nucleic acid molecule comprising a nucleotide sequence identical to the segment of contiguous nucleotide bases comprising at least 25% of a 2480 bps, a 1761 bps, or a 1820 bps, all fully defined in the specification, or a complement;

(4) an isolated nucleic acid molecule comprising a nucleotide sequence identical to the segment of contiguous nucleotide bases comprising at least 25% of a 2051 bps, a 1755 bps or a 1814 bps, all fully defined in the specification, or a complement;

(5) isolated nucleic acid molecule comprising a nucleic acid sequence that encodes a polypeptide comprising a 1005, 2465, 1932, 1929, or 1981 bps, all fully defined in the specification, or a variant Hsp70 that is at least 95% homologous to the polypeptide, percentage homology is determined to an algorithm incorporated in a protein database search program used in BLAST (RTM) or DNA star Megalign (RTM);

(6) isolated nucleic acid molecule comprising a nucleic acid sequence that encodes a polypeptide comprising a 2480, 1761, or 1820

bps, ally fully defined in the specification, or a variant Hsp60 that is at least 95% homologous to the polypeptide, percentage homology is determined to an algorithm incorporated in a protein database search program used in BLAST (RTM) or DNA star Megalign (RTM);

(7) isolated nucleic acid molecule comprising a nucleic acid sequence that encodes a polypeptide comprising a 2051, 1755, or 1814 bps, all fully defined in the specification, or a variant Hsp60 that is at least 95% homologous to the polypeptide, percentage homology is determined to an algorithm incorporated in a protein database search program used in BLAST (RTM) or DNA star Megalign (RTM);

(8) isolated nucleic acid molecule encoding at least 8 contiguous amino acids of (I) from the 1932 base pair sequence, where the encoded polypeptide is able to bind to a major histocompatibility complex;

(9) isolated nucleic acid molecule encoding at least 8 contiguous amino acids of (II) from the 2480 base pair sequence, where the encoded polypeptide is able to bind to a major histocompatibility complex;

(10) isolated nucleic acid molecule encoding at least 8 contiguous amino acids of (II) from the 2051 base pair sequence, where the encoded polypeptide is able to bind to a major histocompatibility complex;

(11) isolated (I), (II) and (III);

(12) isolated polypeptide comprising an amino acid sequence having at least 95% homology to the polypeptide with a 641, 585, or 561 residue amino acid sequence, fully defined in the specification, which selectively binds to an antibody specific for (I), (II), or (III) respectively;

(13) a vector (V) containing the isolated nucleic acid molecule encoding (I), (II) or (III);

(14) host cell containing (V);

(15) composition comprising (I), (II) or (III) in combination with a carrier or diluent; and

(16) a probe or polymerase chain reaction (PCR) primer (P) for detecting DNA encoding (I), comprising at least 15 contiguous bases from a 2465, 1932, 1929 or 1981 base pair sequence, (II) comprising at least 15 contiguous bases from a 2480, 1761 or 1820 base pair sequence and (III), comprising at least 15 contiguous bases from a 2051, 1755, 1814 base pair sequence.

ACTIVITY - Antibiotic.

MECHANISM OF ACTION - The polypeptides generate an immune response to the bacteria.

USE - (I), (II) and (III) are useful for eliciting or enhancing an immune response in a mammal against **Neisseria meningitidis**, *Candida glabrata* and *Aspergillus fumigatus*, by administering target antigen joined to (I), (II) or (III) **polypeptide**, or a fusion **protein** containing sequences of the **polypeptide** fused to sequences of (I), (II) or (III) **polypeptide** (claimed). They are useful for diagnosing the presence of (I), (II) or (III) in a sample by performing a polymerase chain reaction (PCR) amplification of DNA fraction obtained from the sample using at least one (P) (claimed). (I), (II) or (III) **nucleotide** sequences are useful for producing recombinant **proteins** for **immunizing** an animal.

Dwg.0/27

09/889267

L21 ANSWER 14 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2000-339694 [29] WPIDS  
DOC. NO. NON-CPI: N2000-254985  
DOC. NO. CPI: C2000-103147  
TITLE: New isolated outer membrane protein 85 of Neisseria gonorrhoeae and N. meningitidis useful for vaccine, therapeutic and diagnostic compositions for gonococcal or meningococcal infections.  
DERWENT CLASS: B04 D16 S03  
INVENTOR(S): JUDD, R C; MANNING, S D  
PATENT ASSIGNEE(S): (UYMO-N) UNIV MONTANA  
COUNTRY COUNT: 21  
PATENT INFORMATION:

| PATENT NO     | KIND   | DATE               | WEEK | LA | PG |
|---------------|--|--------------------|------|----|----|
| WO 2000023595 | A1   | 20000427 (200029)* | EN   | 98 |    |
| RW:           | AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE    |                    |      |    |    |
| W:            | CA US  |                    |      |    |    |
| EP 1123403    | A1   | 20010816 (200147)  | EN   |    |    |
| R:            | AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE |                    |      |    |    |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION     | DATE     |
|---------------|------|-----------------|----------|
| WO 2000023595 | A1   | WO 1998-US22352 | 19981022 |
| EP 1123403    | A1   | EP 1998-953873  | 19981022 |
|               |      | WO 1998-US22352 | 19981022 |

FILING DETAILS:

| PATENT NO  | KIND        | PATENT NO    |
|------------|-------------|--------------|
| EP 1123403 | A1 Based on | WO 200023595 |

PRIORITY APPLN. INFO: WO 1998-US22352 19981022

AN 2000-339694 [29] WPIDS

AB WO 200023595 A UPAB: 20000617

NOVELTY - Isolated outer membrane proteins (I) and (II) of Neisseria gonorrhoeae and N. meningitidis, respectively, with an apparent molecular weight of 85kDa, are new. (I) and (II) comprise the fully defined 792 and 797 amino acid sequences, respectively, or fragments or derivatives of these with at least 80% homology to (I) or (II).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) nucleic acid sequences (Ia) and (IIa) encoding (I), (II) or their fragments;
- (2) nucleic acid molecules (Ib) and (IIb) comprising the nucleic acid sequences under the control of promoters which direct expression of the Omp85 or fragment in a selected host cell;
- (3) host cells (III) transformed with (Ib) and (IIb);
- (4) recombinant viruses (IV) comprising (Ib) and (IIb);
- (5) preparation and recombinant expression of (I) and (II);
- (6) isolated antibodies which bind to (I) and (II) or their fragments;
- (7) anti-idiotype antibodies specific for the antibodies of (6);

- (8) diagnostic reagents comprising nucleic acid sequences selected from:
- (a) nucleic acid sequences encoding (I) and (II), isolated from cellular materials with which they are naturally associated;
  - (b) the fully defined 2379 or 2394 base pair sequences, or their antisense molecules;
  - (c) fragments of any of (a) or (b) comprising at least 15 nucleotides in length;
  - (d) sequences which hybridize to (a) - (c) under stringent conditions;
  - (e) allelic variants of any of (a) - (d);
  - (f) mutants of (a) - (e); and
  - (g) sequences encoding (I), (II) or their fragments fused to a sequence encoding a second protein; and detectable labels which are associated with their respective sequence;
- (9) diagnostic reagents comprising the antibodies and detectable labels;
- (10) vaccines comprising (I), (II), fusion proteins or their fragments or (Ia) and (IIa);
- (11) methods for identifying compounds which specifically bind to (I), (II) or their fragments comprising contacting the proteins or fragments with a test compound to permit binding of the test compound to (I) or (II) and determining the amount of test compound which is bound to (I) or (II);
- (12) a kit for diagnosing infection with *N. meningitidis*, comprising (II), (IIa), or their fragments, or antibodies against (II) with a detectable label;
- (13) compounds identified by (11); and
- (14) a method for identifying a pharmacomimetic of (I) or (II), comprising:
- (a) identifying a compound, which binds to (I) or (II) by screening the (I) or (II) against a battery of compounds;
  - (b) performing computer modeling of the three dimensional structure of (I) or (II) or the binding compound to identify a compound with the same three dimensional structure as (I) or (II) or its binding compound; and
  - (c) screening the selected compound in a biological assay.
- ACTIVITY - Antibacterial; antigenococcal; antimeningococcal; immunostimulant.
- MECHANISM OF ACTION - Vaccine.
- USE - (I), (II), (Ia), (IIa) and their fragments are useful in compositions for use in the prevention, treatment and diagnosis of non-symptomatic gonococcal infection or meningococcal infection and symptomatic disease, by the detection of hybridization complexes. (I) and (II) are also useful in research. (Ia) and (IIa) are useful in the development of diagnostic and antisense probes for use in detecting and diagnosing the above infections. Antigens and antibodies specific for (I) and (II) also provide diagnostic, therapeutic and prophylactic compositions and methods for the treatment or prevention of the infections described above. The antibodies are useful for inducing a protective immune response in humans or animals with *N. gonorrhoeae*, *N. meningitidis*, or other *Neisseria* species (all claimed). The proteins, antibodies and polynucleotide sequences of the present invention may also be used in the screening and development of chemical compounds such as drugs or vaccines

Dwg.0/8

09/889267

L21 ANSWER 15 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2000-293015 [25] WPIDS  
DOC. NO. CPI: C2000-088548  
TITLE: New mutant cholera holotoxin having a point mutation at amino acid position 29 of the A subunit useful as an adjuvant in an antigenic composition to enhance the immune response in a vertebrate host to a selected antigen from a pathogen.  
DERWENT CLASS: B04 C06 D16  
INVENTOR(S): ELDRIDGE, J H; GREEN, B A; HANCOCK, G E; HOLMES, R K; JOBLING, M G; PEEK, J A  
PATENT ASSIGNEE(S): (AMCY) AMERICAN CYANAMID CO; (USSH) US DEPT HEALTH & HUMAN SERVICES; (USGO) UNIV UNIFORMED SERVICES HEALTH SCI  
COUNTRY COUNT: 86  
PATENT INFORMATION:

| PATENT NO     | KIND   | DATE               | WEEK | LA  | PG |
|---------------|--|--------------------|------|-----|----|
| WO 2000018434 | A1   | 20000406 (200025)* | EN   | 152 |    |
| RW:           | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW   |                    |      |     |    |
| W:            | AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW |                    |      |     |    |
| AU 9964039    | A  | 20000417 (200035)  |      |     |    |
| BR 9914160    | A  | 20010626 (200140)  |      |     |    |
| EP 1117435    | A1   | 20010725 (200143)  | EN   |     |    |
| R:            | AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI   |                    |      |     |    |
| CN 1320043    | A  | 20011031 (200215)  |      |     |    |
| KR 2001085859 | A  | 20010907 (200218)  |      |     |    |
| JP 2002525093 | W  | 20020813 (200267)  |      | 140 |    |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION     | DATE     |
|---------------|------|-----------------|----------|
| WO 2000018434 | A1   | WO 1999-US22520 | 19990930 |
| AU 9964039    | A    | AU 1999-64039   | 19990930 |
| BR 9914160    | A    | BR 1999-14160   | 19990930 |
|               |      | WO 1999-US22520 | 19990930 |
| EP 1117435    | A1   | EP 1999-951639  | 19990930 |
|               |      | WO 1999-US22520 | 19990930 |
| CN 1320043    | A    | CN 1999-811557  | 19990930 |
| KR 2001085859 | A    | KR 2001-703968  | 20010328 |
| JP 2002525093 | W    | WO 1999-US22520 | 19990930 |
|               |      | JP 2000-571951  | 19990930 |

FILING DETAILS:

| PATENT NO  | KIND        | PATENT NO    |
|------------|-------------|--------------|
| AU 9964039 | A Based on  | WO 200018434 |
| BR 9914160 | A Based on  | WO 200018434 |
| EP 1117435 | A1 Based on | WO 200018434 |

09/889267

JP 2002525093 W Based on

WO 200018434

PRIORITY APPLN. INFO: US 1998-102430P 19980930

AN 2000-293015 [25] WPIDS

AB WO 200018434 A UPAB: 20000524

NOVELTY - An antigenic composition which comprises a mutant cholera holotoxin featuring a point mutation at amino acid 29 of the A subunit where the glutamic acid residue is replaced by an amino acid other than aspartic acid.

DETAILED DESCRIPTION - The antigenic composition (AC) enhances the immune response in a vertebrate host to an antigen selected from a pathogenic bacterium, virus, fungus or parasite. The holotoxin has reduced toxicity compared to a wild-type cholera holotoxin.

INDEPENDENT CLAIMS are also included for the following:

(1) a plasmid containing an isolated and purified DNA sequence comprising a DNA sequence which encodes an immunogenic mutant cholera holotoxin having a substitution other than aspartic acid for the glutamic acid at position 29 of the A subunit of the cholera holotoxin and where the DNA sequence is operatively linked to an arabinose inducible promoter;

(2) a host cell transformed, transduced or transfected with the plasmid of claim (1); and

(3) producing an immunogenic mutant cholera holotoxin where the holotoxin has reduced toxicity compared to the wild type and has a substitution other than aspartic acid for the glutamic acid at position 29 of the A subunit of cholera holotoxin. The method comprises transforming, transducing or transfecting a host cell with the plasmid of claim (1) and culturing the host cell under conditions which permit the expression of the recombinant immunogenic detoxified protein by the host cell.

ACTIVITY - Immunostimulatory. 1 micro g of CT-CRM-E29H facilitated the greatest systemic and local humoral immune responses against rP4 protein. This example describes the immune responses of BALB/c mice immunized with recombinant (r) P4 and P6 Outer Membrane Proteins of Nontypable Haemophilus influenzae (NTHi). In a first experiment, five BALB/c mice per group were immunized intranasally on days 0, 21 and 35 with a 10 mu l dose containing 5 micro g rP4 or 10 micro g rP6 plus 1 micro g of the adjuvant (CT, CT-B, E29H, E110D, E112D, R7K and R11K). The anti-rP4 IgG antibody titers were determined by ELISA on pooled samples collected at days 0, 21, 35 and 48. For the cholera mutant adjuvant E29H the titre increased from 1.052 at day 0 to 95,922 at day 48 this compared to 1,157 at day 0 to 1,968 at day 48 where no adjuvant was added.

MECHANISM OF ACTION - Induction of IgA in mucosal surfaces. The IgA response in a bronchoalveolar wash on day 49 after immunization with a dose containing rP4 and the adjuvant E29H showed titre of 845 compared to 27 when no adjuvant was added.

USE - A method is claimed for increasing the ability of an antigenic composition (AC) to enhance an immune response of a vertebrate host against a selected antigen such as a pathogenic bacterium, virus, fungus or parasite, by administration of the antigenic composition. An effective amount of the cholera holotoxin is used to enhance this immune response in a vertebrate host to the antigen. The preferred antigenic compositions listed under preferred composition are able to elicit an increased immune response of a vertebrate host. Desirable bacterial vaccines including the CT-CRM mutants as an adjuvant include those directed to the prevention and/or treatment of disease caused by Haemophilus influenzae,

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Haemophilus somnus, Moraxella catarrhalis, Streptococcus pyrogens, Streptococcus agalactiae, Helicobacter pylori, Neisseria meningitidis, Neisseria gonorrhoea Chlamydia trachomatis, Salmonella typhi, Escherichia coli, Shigella, Vibrio cholerae, Corynebacterium diphtheriae, Mycobacterium tuberculosis, Mycobacterium avium-Mycobacterium intracellulare complex, Proteus mirabilis, Proteus vulgaris, Staphylococcus aureus, Clostridium tetani, Leptospira interrogans and Mycoplasma gallisepticum. Desirable viral vaccines including the CT-CRM mutants as an adjuvant include those directed to the prevention and/or treatment of disease caused by the following viruses: Respiratory syncytial virus, Parainfluenza virus types 1-3, Influenza virus, Herpes simplex virus, Human cytomegalovirus, Human immunodeficiency virus, Hepatitis A, B and C, Human papillomavirus, poliovirus, rotavirus, calciviruses, Measles virus, Mumps virus, Rubella virus, adenovirus, rabies virus, canine distemper virus, feline leukemia virus, Marek's disease virus, equine arteritis virus and various Encephalitis viruses. Desirable vaccines against fungal pathogens include those directed to the prevention and/or treatment of disease caused by Aspergillus Blastomyces, Candida, Coccidioides, Cryptococcus and Histoplasma. Desirable vaccines against parasites including the CR-CRM mutants as an adjuvant include those directed to the prevention and/or treatment of disease caused by Leishmania major, Ascaris, Trichuris, Giardia, Schistosoma, Cryptosporidium, Trichomonas, Toxoplasma gondii and Pneumocystis carinii.

ADVANTAGE - Parenteral immunization regimens are usually ineffective in inducing secretory IgA responses. However, in this approach the coadministration of (cholera toxin) CT, which is a mucosal adjuvant, with an unrelated antigen results in the induction of concurrent circulating and mucosal antibody responses to that antigen. The mutated CT has reduced toxicity so that the symptoms of diarrhoea caused by wild type CT are reduced.

Dwg.0/14

L21 ANSWER 16 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2000-256581 [22] WPIDS  
CROSS REFERENCE: 2000-237782 [20]  
DOC. NO. CPI: C2000-078252  
TITLE: **Neisseria meningitidis NMASP polypeptide, nucleotide sequences and antibodies, useful in vaccines against infection.**  
DERWENT CLASS: B04 D16  
INVENTOR(S): HARRIS, A M; JACKSON, W J  
PATENT ASSIGNEE(S): (ANTE-N) ANTEX BIOLOGICS INC  
COUNTRY COUNT: 86  
PATENT INFORMATION:

| PATENT NO     | KIND DATE   | WEEK | LA | PG |
|---------------|---|------|----|----|
| WO 2000012535 | A2 20000309 (200022)*   | EN   | 75 |    |
| RW:           | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW   |      |    |    |
| W:            | AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW |      |    |    |
| AU 9957894    | A 20000321 (200031)   |      |    |    |

09/889267

EP 1109454 A2 20010627 (200137) EN  
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK  
NL PT RO SE SI  
JP 2002523077 W 20020730 (200264) 98

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION     | DATE     |
|---------------|------|-----------------|----------|
| WO 2000012535 | A2   | WO 1999-US19663 | 19990901 |
| AU 9957894    | A    | AU 1999-57894   | 19990901 |
| EP 1109454    | A2   | EP 1999-945257  | 19990901 |
|               |      | WO 1999-US19663 | 19990901 |
| JP 2002523077 | W    | WO 1999-US19663 | 19990901 |
|               |      | JP 2000-567554  | 19990901 |

FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO    |
|---------------|-------------|--------------|
| AU 9957894    | A Based on  | WO 200012535 |
| EP 1109454    | A2 Based on | WO 200012535 |
| JP 2002523077 | W Based on  | WO 200012535 |

PRIORITY APPLN. INFO: US 1998-98685P 19980901

AN 2000-256581 [22] WPIDS

CR 2000-237782 [20]

AB WO 200012535 A UPAB: 20021105

NOVELTY - An isolated *Neisseria meningitidis* NMASP polypeptide, which has a molecular weight of about 40-55 kD, determined by sodium dodecyl sulfate (SDS)-PAGE (polyacrylamide gel electrophoresis), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a peptide fragment of NMASP;
- (2) an isolated antibody that specifically binds NMASP;
- (3) an antigenic composition, vaccine or pharmaceutical composition comprising NMASP or a peptide fragment or an antibody of (2);
- (4) an isolated DNA comprising a nucleotide sequence encoding NMASP or its fragments;
- (5) an isolated DNA sequence having a 153 base pair (bp) sequence given in the specification;
- (6) an isolated DNA which comprises a nucleotide sequence that hybridizes under high stringency conditions to a sequence of (5);
- (7) plasmid pNmAH116 obtainable from *Escherichia coli* Top10 pNmAH116) as deposited with the ATCC and assigned accession number 98839;
- (8) a method (A) for assaying for an agent that interacts with NMASP;
- (9) an antagonist which inhibits the activity or expression of NMASP; and
- (10) a method for identifying compounds which interact with and inhibit or activate an activity of NMASP, comprising contacting the polypeptide with the compound to be screened under interaction conditions and assessing the interaction, an interaction being associated with a second component capable of providing a signal in the presence or absence of a signal generated by the interaction

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between the polypeptide and the compound.

ACTIVITY - Antibacterial; Anti-inflammatory.

MECHANISM OF ACTION - Vaccine.

USE - NMASP can be used in a method to produce an immune response in an animal. The sequences and antibodies are useful for protection against *N. meningitidis*, the most common cause of bacterial meningitis and septicemia in infants and young adults. The antibody is a cytotoxic antibody that mediates complement killing of *N. meningitidis*. NMASP and NMASP-derived polypeptides may be used as ligands to detect antibodies elicited in response to *N. meningitidis* infections.

ADVANTAGE - Antibody generated against the NMASP polypeptide in an animal host will exhibit bactericidal and/or opsonic activity against many *Neisseria meningitidis* strains and thus confer broad cross-strain protection. Bactericidal and/or opsonic antibody will prevent the bacterium from infecting the host and/or enhance the clearance of the pathogen by the host's immune system.

Dwg.0/2

L21 ANSWER 17 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 2000-224702 [19] WPIDS  
DOC. NO. NON-CPI: N2000-168304  
DOC. NO. CPI: C2000-068763  
TITLE: Novel polypeptides derived from the products of the BASB024 gene of *Neisseria meningitidis*, useful for inducing an immune response and producing antibodies useful for treating meningitis.  
DERWENT CLASS: B04 D16 S03  
INVENTOR(S): THONNARD, J  
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS  
COUNTRY COUNT: 89  
PATENT INFORMATION:

| PATENT NO     | KIND  | DATE               | WEEK | LA  | PG |
|---------------|---|--------------------|------|-----|----|
| WO 2000011182 | A1  | 20000302 (200019)* | EN   | 102 |    |
| RW:           | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC<br>MW NL OA PT SD SE SL SZ UG ZW  |                    |      |     |    |
| W:            | AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM<br>EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ<br>LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD<br>SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW |                    |      |     |    |
| AU 9957352    | A   | 20000314 (200031)  |      |     |    |
| EP 1105493    | A1  | 20010613 (200134)  | EN   |     |    |
| R:            | AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK<br>NL PT RO SE SI   |                    |      |     |    |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE     |
|---------------|------|----------------|----------|
| WO 2000011182 | A1   | WO 1999-EP5989 | 19990813 |
| AU 9957352    | A    | AU 1999-57352  | 19990813 |
| EP 1105493    | A1   | EP 1999-944404 | 19990813 |
|               |      | WO 1999-EP5989 | 19990813 |

FILING DETAILS:

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| PATENT NO  | KIND        | PATENT NO    |
|------------|-------------|--------------|
| AU 9957352 | A Based on  | WO 200011182 |
| EP 1105493 | A1 Based on | WO 200011182 |

PRIORITY APPLN. INFO: GB 1998-18004 19980818

AN 2000-224702 [19] WPIDS

AB WO 200011182 A UPAB: 20000419

NOVELTY - Polypeptide with at least 85 % identity to a 922 (I), or 921 (II) amino acid (aa) sequence, given in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a polypeptide comprising a sequence of 922 aa (III), given in the specification;
- (2) an immunogenic fragment of (I), (II), or (III);
- (3) a polynucleotide encoding a polypeptide with at least 85 % identity to (I), or (II), or with at least 85 % identity to a sequence encoding (I), or (II);
- (4) a polynucleotide comprising a sequence with at least 85 % identity to a sequence of 2769 (IV), or 2766 (V) base pairs (bp), given in the specification;
- (5) a polynucleotide comprising a sequence encoding (I) or (II) that is obtainable by screening a library with a hybridization probe comprising (fragments of) (IV) or (V), or encoding (III) obtainable by using a probe comprising (fragments of) a sequence of 2769 bp (VI), given in the specification;
- (6) a polynucleotide encoding (III);
- (7) a polynucleotide comprising (VI);
- (8) a vector or a recombinant live microorganism comprising a polynucleotide as in any of (3)-(7);
- (9) a host cell comprising the vector of (8);
- (10) production of (I) or (II), or expression of a polynucleotide as in (3)-(7), comprising culturing the host cells of (9);
- (11) a vaccine comprising a polypeptide as in (I)-(III), or a polynucleotide as in (3)-(7);
- (12) an antibody with specificity against the fragments of (2); and
- (13) diagnosing *Neisseria meningitidis* infection comprising identifying (I), (II), or (III), or an antibody specific for (I), (II), or (III).

ACTIVITY - Antibacterial; antiinflammatory.

MECHANISM OF ACTION - Vaccine.

USE - The **polypeptides** and **polynucleotides** comprising or encoding (I), (II) or a sequence of 922 amino acids (III) (given in the specification) are useful for generating an immune response in an animal (claimed). Antibodies specific to (I), (II) or (III) are useful for treating **N. meningitidis** infection (claimed), which causes bacteremia and meningitis, as in a **vaccine** comprising (I), (II), or (III).

Dwg.0/6

L21 ANSWER 18 OF 31 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 2000-205407 [18] WPIDS

DOC. NO. CPI: C2000-063253

TITLE: Microparticles with adsorbent surface comprising

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polymer and detergent, used as vaccines, and for targeted delivery of e.g. polypeptides, efficient adsorbance of biologically active macromolecules.

DERWENT CLASS: A14 A23 A26 A96 B04 B07 C03 D16  
INVENTOR(S): BARACKMAN, J; KAZZAZ, J; O'HAGEN, D; OTT, G S;  
SINGH, M  
PATENT ASSIGNEE(S): (CHIR) CHIRON CORP  
COUNTRY COUNT: 87  
PATENT INFORMATION:

| PATENT NO  | KIND | DATE               | WEEK | LA | PG |
|--|------|--------------------|------|----|----|
| WO 2000006123  | A1   | 20000210 (200018)* | EN   | 59 |    |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC<br>MW NL OA PT SD SE SL SZ UG ZW   |      |                    |      |    |    |
| W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES<br>FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK<br>LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG<br>SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW |      |                    |      |    |    |
| AU 9952452   | A    | 20000221 (200029)  |      |    |    |
| EP 1100468   | A1   | 20010523 (200130)  | EN   |    |    |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK<br>NL PT RO SE SI   |      |                    |      |    |    |
| JP 2002521425  | W    | 20020716 (200261)  |      | 73 |    |

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION     | DATE     |
|---------------|------|-----------------|----------|
| WO 2000006123 | A1   | WO 1999-US17308 | 19990729 |
| AU 9952452    | A    | AU 1999-52452   | 19990729 |
| EP 1100468    | A1   | EP 1999-937664  | 19990729 |
| JP 2002521425 | W    | WO 1999-US17308 | 19990729 |
|               |      | JP 2000-561979  | 19990729 |

FILING DETAILS:

| PATENT NO     | KIND | PATENT NO             |
|---------------|------|-----------------------|
| AU 9952452    | A    | Based on WO 200006123 |
| EP 1100468    | A1   | Based on WO 200006123 |
| JP 2002521425 | W    | Based on WO 200006123 |

PRIORITY APPLN. INFO: US 1999-285855 19990402; US 1998-124533  
19980729

AN 2000-205407 [18] WPIDS

AB WO 200006123 A UPAB: 20000412

NOVELTY - Microparticles with an adsorbent surface are new and comprise:

(1) polymer chosen from poly( alpha -hydroxy acid), polyhydroxy butyric acid, polycaprolactone, polyorthoester, polyanhydride or polycyanoacrylate; and  
(2) detergent.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of producing microparticles with adsorbent surface to which biologically active macromolecule has been adsorbed.

ACTIVITY - Vaccine; immunomodulating. Microparticle induction

of immune response was examined in guinea pigs following intramuscular immunization. Five formulations were tested: (1) PLG/CTAB gp 120 adsorbed (25 mu g); (2) PLG/CTAB gp 120 adsorbed (25 mu g) + aluminum phosphate; (3) soluble gp 120 DNA (25 mu g) + aluminum phosphate; (4) soluble gp 120 DNA (25 mu g) alone; and (5) MF59 protein (50 mg). GMT of serum was as follows: (1) 1,435 plus or minus 383; (2) 3,624 plus or minus 454; (3) 119 plus or minus 606; (4) 101 plus or minus 55; and (5) 3,468 plus or minus 911. Antibody induction (collection and analysis of serum) were performed and geometric mean titer of serum determined.

**ADVANTAGE** - Efficiently adsorb biologically active macromolecules such as DNA, polypeptides, antigens and adjuvants. Capable of adsorbing wide variety of macromolecules. Flexible delivery systems, particularly for drugs that are highly sensitive and difficult to formulate.

Dwg. 0/0

L21 ANSWER 19 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 1999-444400 [37] WPIDS  
DOC. NO. NON-CPI: N1999-331439

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DOC. NO. CPI: C1999-130937  
TITLE: New protein and its nucleotide sequence, useful in vaccines or diagnostic compositions for treating and/or preventing **Neisseria meningitidis** infections.  
DERWENT CLASS: B04 D16 S03  
INVENTOR(S): GRANDI, G; MASIGNANI, V; PIZZA, M; RAPPUOLI, R; SCARLATO, V  
PATENT ASSIGNEE(S): (CHIR-N) CHIRON SPA  
COUNTRY COUNT: 85  
PATENT INFORMATION:

| PATENT NO       | KIND   | DATE               | WEEK | LA  | PG |
|-----------------|--|--------------------|------|-----|----|
| WO 9936544      | A2   | 19990722 (199937)* | EN   | 123 |    |
| RW:             | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW   |                    |      |     |    |
| W:              | AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW |                    |      |     |    |
| AU 9919795      | A  | 19990802 (199954)  |      |     |    |
| EP 1047784      | A2   | 20001102 (200056)  | EN   |     |    |
| R:              | AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE   |                    |      |     |    |
| CN 1292820      | A  | 20010425 (200143)  |      |     |    |
| BR 9906927      | A  | 20011120 (200202)  |      |     |    |
| JP 2002508966 W |  | 20020326 (200236)  |      | 198 |    |

APPLICATION DETAILS:

| PATENT NO       | KIND | APPLICATION    | DATE     |
|-----------------|------|----------------|----------|
| WO 9936544      | A2   | WO 1999-IB103  | 19990114 |
| AU 9919795      | A    | AU 1999-19795  | 19990114 |
| EP 1047784      | A2   | EP 1999-900583 | 19990114 |
|                 |      | WO 1999-IB103  | 19990114 |
| CN 1292820      | A    | CN 1999-803873 | 19990114 |
| BR 9906927      | A    | BR 1999-6927   | 19990114 |
| JP 2002508966 W |      | WO 1999-IB103  | 19990114 |
|                 |      | WO 1999-IB103  | 19990114 |
|                 |      | JP 2000-540246 | 19990114 |

FILING DETAILS:

| PATENT NO       | KIND        | PATENT NO  |
|-----------------|-------------|------------|
| AU 9919795      | A Based on  | WO 9936544 |
| EP 1047784      | A2 Based on | WO 9936544 |
| BR 9906927      | A Based on  | WO 9936544 |
| JP 2002508966 W | Based on    | WO 9936544 |

PRIORITY APPLN. INFO: GB 1998-22143 19981009; GB 1998-760 19980114; GB 1998-19015 19980901  
AN 1999-444400 [37] WPIDS  
AB WO 9936544 A UPAB: 19990914  
NOVELTY - A protein from **Neisseria meningitidis** is new.  
DETAILED DESCRIPTION - A protein from **Neisseria meningitidis**

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has one of amino acid sequences (S1)-(S3) of 245, 591 and 592 amino acids, respectively (all are given in the specification)

INDEPENDENT CLAIMS are also included for the following:

- (1) a protein (I) comprising an amino acid sequence, having at least 50% sequence identity, or a fragment of the 45 sequences (given in the specification), e.g. (S1)-(S3). specification;
- (2) an antibody (III) which binds to (I);
- (3) a nucleic acid (II) molecule which encodes (I);
- (4) a nucleic acid molecule comprising a complementary nucleic acid molecule to (II);
- (5) a nucleic acid molecule comprising a nucleic acid sequence, having at least 50% sequence identity to (II);
- (6) a nucleic acid molecule which can hybridize to (II) under high stringency conditions;
- (7) a composition comprising (I), (II) or (III).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - None given.

USE - The composition is useful as a pharmaceutical, e.g. a vaccine composition or a diagnostic composition. The composition is also useful for treating or preventing an infection due to Neisserial bacteria, especially *Neisseria meningitidis*.

ADVANTAGE - None given.

Dwg.0/7

|                     |  |              |
|---------------------|--|--------------|
| L21 ANSWER 20 OF 31 | MEDLINE  | DUPPLICATE 1 |
| ACCESSION NUMBER:   | 1999242827 MEDLINE   |              |
| DOCUMENT NUMBER:    | 99242827 PubMed ID: 10225902   |              |
| TITLE:              | Structural and evolutionary inference from molecular variation in <i>Neisseria</i> porins.   |              |
| AUTHOR:             | Derrick J P; Urwin R; Suker J; Feavers I M; Maiden M C   |              |
| CORPORATE SOURCE:   | Department of Biomolecular Sciences, UMIST, Manchester M60 1QD, United Kingdom.  |              |
| SOURCE:             | INFECTION AND IMMUNITY, (1999 May) 67 (5) 2406-13.<br>Journal code: 0246127. ISSN: 0019-9567.                                      |              |
| PUB. COUNTRY:       | United States  |              |
| DOCUMENT TYPE:      | Journal; Article; (JOURNAL ARTICLE)  |              |
| LANGUAGE:           | English  |              |
| FILE SEGMENT:       | Priority Journals  |              |
| OTHER SOURCE:       | GENBANK-AF121870; GENBANK-AF121871; GENBANK-AF121872;<br>GENBANK-AF121873; GENBANK-AF121874; GENBANK-AF121875;<br>GENBANK-AF121876 |              |
| ENTRY MONTH:        | 199905   |              |
| ENTRY DATE:         | Entered STN: 19990601<br>Last Updated on STN: 19990601<br>Entered Medline: 19990518  |              |

AB The porin **proteins** of the pathogenic *Neisseria* species, *Neisseria gonorrhoeae* and *Neisseria meningitidis*, are important as serotyping antigens, putative **vaccine** components, and for their proposed role in the intracellular colonization of humans. A three-dimensional structural homology model for *Neisseria* porins was generated from *Escherichia coli* porin structures and *N. meningitidis* PorA and PorB sequences. The *Neisseria* sequences were readily assembled into the 16-strand beta-barrel fold characteristic of porins, despite relatively low sequence identity with the *Escherichia* **proteins**. The model provided information on the spatial relationships of variable regions of **peptide** sequences in

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the PorA and PorB trimers and insights relevant to the use of these proteins in vaccines. The nucleotide sequences of the porin genes from a number of other Neisseria species were obtained by PCR direct sequencing and from GenBank. Alignment and analysis of all available Neisseria porin sequences by use of the structurally conserved regions derived from the PorA and PorB structural models resulted in the recovery of an improved phylogenetic signal. Phylogenetic analyses were consistent with an important role for horizontal genetic exchange in the emergence of different porin classes and confirmed the close evolutionary relationships of the porins from *N. meningitidis*, *N. gonorrhoeae*, *Neisseria lactamica*, and *Neisseria polysaccharea*. Only members of this group contained three conserved lysine residues which form a potential GTP binding site implicated in pathogenesis. The model placed these residues on the inside of the pore, in close proximity, consistent with their role in regulating pore function when inserted into host cells.

L21 ANSWER 21 OF 31 MEDLINE DUPLICATE 2  
ACCESSION NUMBER: 1999251147 MEDLINE  
DOCUMENT NUMBER: 99251147 PubMed ID: 10234839  
TITLE: Characterisation of the lpdA gene from *Neisseria meningitidis* by polymerase chain reaction, restriction fragment length polymorphism and sequencing.  
AUTHOR: Silva R; Menendez T; Alonso L M; Iglesias E; Musacchio A; Leal M J; Alvarez A; Coizeau E; Martin A; Herrera L; Guillen G  
CORPORATE SOURCE: Division de Vacunas, Centro de Ingenieria Genetica y Biotecnologia, La Habana, Cuba.. ricardo.silva@cigb.edu.cu  
SOURCE: FEMS MICROBIOLOGY LETTERS, (1999 May 1) 174 (1) 191-9.  
PUB. COUNTRY: Netherlands  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
OTHER SOURCE: GENBANK-X77920; GENBANK-X81450; GENBANK-X84696; GENBANK-X89747; GENBANK-X89748; GENBANK-X90938  
ENTRY MONTH: 199906  
ENTRY DATE: Entered STN: 19990618  
Last Updated on STN: 19990618  
Entered Medline: 19990610  
AB P64k protein from *Neisseria meningitidis* is well recognised in sera from individuals convalescent from meningococcal disease or vaccinated with the Cuban antimeningococcal vaccine VA-MENGOC-BC. The presence of the protein in more than 80 meningococcal strains has also been verified. It is immunogenic in animal models and the antibodies elicited show bactericidal activity against meningococci. To further investigate at the molecular level whether lpdA, the gene coding for P64k protein, is conserved among different *N. meningitidis* strains, a total of 20 strains isolated from different geographic areas were differentiated on the basis of restriction fragment length polymorphism (RFLP) patterns after polymerase chain reaction (PCR) amplification of the lpdA gene and restriction endonuclease digestion with HpaII. Although a total of

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five different PCR-RFLP patterns were present, nucleotide sequence determination showed that identity levels were as high as 93-99% among the *N. meningitidis* strains analysed.

L21 ANSWER 22 OF 31 MEDLINE DUPLICATE 3  
ACCESSION NUMBER: 97258610 MEDLINE  
DOCUMENT NUMBER: 97258610 PubMed ID: 9104804  
TITLE: Highly conserved *Neisseria meningitidis* surface protein confers protection against experimental infection.  
AUTHOR: Martin D; Cadieux N; Hamel J; Brodeur B R  
CORPORATE SOURCE: Unite de Recherche en Vaccinologie, Centre de Recherche en Infectiologie, Centre Hospitalier Universitaire de Quebec, Ste-Foy, Canada.  
SOURCE: JOURNAL OF EXPERIMENTAL MEDICINE, (1997 Apr 7) 185 (7) 1173-83.  
PUB. COUNTRY: Journal code: 2985109R. ISSN: 0022-1007.  
DOCUMENT TYPE: United States  
LANGUAGE: Journal; Article; (JOURNAL ARTICLE)  
FILE SEGMENT: English  
OTHER SOURCE: Priority Journals  
GENBANK-U52066  
ENTRY MONTH: 199705  
ENTRY DATE: Entered STN: 19970523  
Last Updated on STN: 19970523  
Entered Medline: 19970514

AB A new surface protein, named NspA, which is distinct from the previously described *Neisseria meningitidis* outer membrane proteins was identified. An NspA-specific mAb, named Me-1, reacted with 99% of the meningococcal strains tested indicating that the epitope recognized by this particular mAb is widely distributed and highly conserved. Western immunoblotting experiments indicated that mAb Me-1 is directed against a protein band with an approximate molecular mass of 22,000, but also recognized a minor protein band with an approximate molecular mass of 18,000. This mAb exhibited bactericidal activity against four meningococcal strains, two isolates of serogroup B, and one isolate from each serogroup A and C, and passively protected mice against an experimental infection. To further characterize the NspA protein and to evaluate the protective potential of recombinant NspA protein, the nspA gene was identified and cloned into a low copy expression vector. Nucleotide sequencing of the meningococcal insert revealed an ORF of 525 nucleotides coding for a polypeptide of 174 amino acid residues, with a predicted molecular weight of 18,404 and a isoelectric point of 9.93. Three injections of either 10 or 20 microg of the affinity-purified recombinant NspA protein efficiently protected 80% of the mice against a meningococcal deadly challenge comparatively to the 20% observed in the control groups. The fact that the NspA protein can elicit the production of bactericidal and protective antibodies emphasize its potential as a vaccine candidate.

L21 ANSWER 23 OF 31 MEDLINE DUPLICATE 4  
ACCESSION NUMBER: 97445911 MEDLINE  
DOCUMENT NUMBER: 97445911 PubMed ID: 9302199

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TITLE: Heterogeneity of *tbpB*, the transferrin-binding protein B gene, among serogroup B *Neisseria meningitidis* strains of the ET-5 complex.

AUTHOR: Rokbi B; Mignon M; Caugant D A; Quentin-Millet M J

CORPORATE SOURCE: Pasteur Merieux Connaught, Marcy-l'Etoile, France.

SOURCE: CLINICAL AND DIAGNOSTIC LABORATORY IMMUNOLOGY, (1997 Sep) 4 (5) 522-9.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

OTHER SOURCE: GENBANK-Y09617; GENBANK-Y09618; GENBANK-Y09619; GENBANK-Y09977; GENBANK-Z15130; GENBANK-Z50732

ENTRY MONTH: 199710

ENTRY DATE: Entered STN: 19971224  
Last Updated on STN: 19971224  
Entered Medline: 19971030

AB ET-5 complex strains of *Neisseria meningitidis* were traced intercontinentally and have been causing hyperendemic meningitis on a worldwide scale. In an attempt to develop a fully broad cross-reactive transferrin-binding protein B (*TbpB*)-based vaccine, we undertook to assess the extent of variability of *TbpB* proteins among strains of this epidemiological complex. For this purpose, a PCR-based method was developed to study the heterogeneity of the *tbpB* genes from 31 serogroup B *N. meningitidis* strains belonging to the ET-5 complex. To define adequate primers, the *tbpB* gene from an ET-5 complex strain, 8680 (B:15:P1.3; isolated in Chile in 1987), was cloned and the nucleotide sequence was determined and compared to two other previously published *tbpB* sequences. A *tbpB* fragment was amplified from genomic DNA from each of the 31 strains. By this method, heterogeneity in size was observed and further characterized by restriction pattern analysis with four restriction enzymes and by sequencing *tbpB* genes from three other ET-5 complex strains. Four distinct *tbpB* gene types were identified. Fifty-five percent of the strains studied (17/31) harbored *tbpB* genes similar to that of strain BZ83 (B:15:-) isolated in The Netherlands in 1984. Ten of the 31 strains (32.2%) had *tbpB* genes close to that of strain M982. Only 3 of the 31 (9.6%) were found to harbor *tbpB* genes close to that of strain 8680, and finally one strain, 8710 (B:15:P1.3; isolated in Chile in 1987), was found to harbor a *tbpB* gene different from all the others. These results demonstrated a pronounced variability among *tbpB* alleles within a limited number of ET-5 complex strains collected over a 19-year period. Despite the genetic heterogeneity observed, specific antisera raised to purified Tbps from ET-5 complex strains showed broad cross-reactivity between different Tbps both by Western blot analysis and bactericidal assay, confirming that a limited number of *TbpB* molecules included in a vaccine are likely to induce broadly cross-reactive antibodies against the different strains.

L21 ANSWER 24 OF 31 MEDLINE DUPLICATE 5  
ACCESSION NUMBER: 96400835 MEDLINE  
DOCUMENT NUMBER: 96400835 PubMed ID: 8807211  
TITLE: Antigenic diversity of meningococcal outer membrane protein PorA has implications for epidemiological analysis and vaccine design.

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AUTHOR: Feavers I M; Fox A J; Gray S; Jones D M; Maiden M C  
CORPORATE SOURCE: Division of Bacteriology, National Institute for  
Biological Standards and Control, Potters Bar,  
Hertfordshire, United Kingdom.  
SOURCE: CLINICAL AND DIAGNOSTIC LABORATORY IMMUNOLOGY, (1996  
Jul) 3 (4) 444-50.  
Journal code: 9421292. ISSN: 1071-412X.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199701  
ENTRY DATE: Entered STN: 19970219  
Last Updated on STN: 19970219  
Entered Medline: 19970131

AB The currently used serological subtyping scheme for the pathogen **Neisseria meningitidis** is not comprehensive, a proportion of isolates are reported as not subtypeable (NST), and few isolates are fully characterized with two subtypes for each strain. To establish the reasons for this and to assess the effectiveness of DNA-based subtyping schemes, dot blot hybridization and nucleotide sequence analyses were used to characterize the genes encoding antigenic variants of the meningococcal subtyping antigen, the PorA protein. A total of 233 strains, including 174 serologically NST and 59 partially or completely subtyped meningococcal strains, were surveyed. The NST isolates were chosen to be temporally and geographically representative of NST strains, isolated in England and Wales, and submitted to the Meningococcal Reference Unit in the period 1989 to 1991. The DNA-based analyses demonstrated that all of the strains examined possessed a porA gene. Some of these strains were serologically NST because of a lack of monoclonal antibodies against certain PorA epitopes; in other cases, strains expressed minor variants of known PorA epitopes that did not react with monoclonal antibodies in serological assays. Lack of expression remained a possible explanation for serological typing failure in some cases. These findings have important implications for epidemiological analysis and vaccine design and demonstrate the need for genetic characterization, rather than phenotypic characterization using monoclonal antibodies, for the identification of meningococcal strains.

L21 ANSWER 25 OF 31 MEDLINE DUPLICATE 6  
ACCESSION NUMBER: 96146050 MEDLINE  
DOCUMENT NUMBER: 96146050 PubMed ID: 8581171  
TITLE: Monoclonal antibody recognition of members of the meningococcal P1.10 variable region family: implications for serological typing and vaccine design.  
AUTHOR: Suker J; Feavers I M; Maiden M C  
CORPORATE SOURCE: Division of Bacteriology, National Institute for Biological Standards and Control, Potters Bar, Herts, UK.  
SOURCE: MICROBIOLOGY, (1996 Jan) 142 ( Pt 1) 63-9.  
Journal code: 9430468. ISSN: 1350-0872.  
PUB. COUNTRY: ENGLAND: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English

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FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199603  
ENTRY DATE: Entered STN: 19960327  
Last Updated on STN: 19960327  
Entered Medline: 19960319

AB Identification of antigenic variants of the **PorA protein** of **Neisseria meningitidis** with specific mAbs (serosubtyping) is used in meningococcal strain characterization and the resultant data has been exploited in the design of novel multivalent **vaccines** against this important pathogen. The reactivity of the P1.10 serosubtyping mAb MN20F4.17 with eight members of the meningococcal P1.10 variable region (VR) family (prototype P1.10 and variants P1.10a-P1.10g), identified by nucleotide sequence analysis of porA genes, was investigated. Analysis of overlapping synthetic octapeptides by ELISA demonstrated that the **peptide** sequence, QNQRPTL, present only in the prototype P1.10, was sufficient for binding of the mAb. A linear **peptide** of 14 amino acids, containing the minimum epitope, inhibited binding of mAb MN20F4.17 to whole cells in a competitive ELISA. This binding was weak compared with a tethered **peptide** or the native **protein**. In whole-cell ELISA or dot-blot assays using low concentrations of mAb MN20F4.17 only the prototype P1.10 was detected. However, when higher concentrations of antibody were used the prototype P1.10 was detected, together with variants P1.10a, P1.10c and P1.10e by whole-cell ELISA and P1.10a and P1.10c by the immunoblot technique. The variants P1.10b, P1.10d, P1.10f and P1.10g showed no reactivity with mAb under any of the conditions tested. A survey of the porA genes in serogroup B and C strains revealed that the P1.10a variant, rather than the prototype P1.10, was the most common member of the P1.10 VR family in England and Wales. These data illustrate: (i) the problems associated with epidemiological analyses that rely solely on monoclonal antibodies; (ii) the importance of using defined assay conditions for serosubtyping; and (iii) that genetical analyses provide more reliable information than serological data based on murine reagents for the design of candidate **vaccines** that include PorA.

L21 ANSWER 26 OF 31 MEDLINE DUPLICATE 7  
ACCESSION NUMBER: 94040654 MEDLINE  
DOCUMENT NUMBER: 94040654 PubMed ID: 8224787  
TITLE: Population genetics of a transformable bacterium: the influence of horizontal genetic exchange on the biology of *Neisseria meningitidis*.  
AUTHOR: Maiden M C  
CORPORATE SOURCE: Division of Bacteriology, National Institute for Biological Standards and Control, South Mimms, UK.  
SOURCE: FEMS MICROBIOLOGY LETTERS, (1993 Sep 15) 112 (3)  
243-50. Ref: 25  
Journal code: 7705721. ISSN: 0378-1097.  
PUB. COUNTRY: Netherlands  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
(REVIEW, TUTORIAL)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199312  
ENTRY DATE: Entered STN: 19940117

09/889267

Last Updated on STN: 19940117  
Entered Medline: 19931208

AB Information of the biochemistry and genetics of bacterial species, usually obtained by the study of single isolates, is enhanced by studies of populations of bacteria. Recent advances in molecular technology, particularly polymerase chain reaction-based **nucleotide** sequence analysis, provide powerful tools for the study of population genetics. Data obtained by such techniques indicate that, while some bacterial species have a clonal population structure, others are non-clonal or panmictic. Clonal populations are a consequence of asexual reproduction by binary fission; panmictic population structures result from 'horizontal' exchange of genetic material between clones. A consequence of horizontal genetic exchange is mosaic gene structures, recognisable by comparisons of **nucleotide** sequences. In transformable bacteria, for example the human pathogen **Neisseria meningitidis**, several different genes, including the gene encoding the class 1 outer membrane **protein**, a major surface antigen, are mosaics. This genetic process has implications both for **vaccine** design and in the interpretation of epidemiological data.

L21 ANSWER 27 OF 31 MEDLINE DUPLICATE 8  
ACCESSION NUMBER: 95058178 MEDLINE  
DOCUMENT NUMBER: 95058178 PubMed ID: 7526119  
TITLE: Expression of meningococcal epitopes in LamB of Escherichia coli and the stimulation of serosubtype-specific antibody responses.  
AUTHOR: McCarvil J; McKenna A J; Grief C; Hoy C S; Sesardic D; Maiden M C; Feavers I M  
CORPORATE SOURCE: Division of Bacteriology, National Institute for Biological Standards and Control, South Mimms, Hertfordshire, UK.  
SOURCE: MOLECULAR MICROBIOLOGY, (1993 Oct) 10 (1) 203-13.  
Journal code: 8712028. ISSN: 0950-382X.  
PUB. COUNTRY: ENGLAND: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199411  
ENTRY DATE: Entered STN: 19950110  
Last Updated on STN: 19960129  
Entered Medline: 19941129

AB The class 1 outer membrane **protein** (OMP), a major variable surface antigen of **Neisseria meningitidis**, is a component of novel meningococcal **vaccines** currently in field trials. Serological variants of the **protein** are also used to serosubtype meningococci. Most of the amino acid changes that give rise to antigenic variants of the **protein** occur in two variable regions (VR1 and VR2) that are thought to form loops on the cell surface. The polymerase chain reaction (PCR) was used to amplify the **nucleotide** sequences encoding VR1 and VR2 from the chromosomal DNA of **N. meningitidis** strain M1080. These were cloned in frame into the lamB gene of the Escherichia coli expression vector pAJC264. Whole-cell enzyme-linked immunosorbent assays (ELISAs), using monoclonal antibodies, and SDS-PAGE confirmed that, upon induction, strains of E. coli carrying these constructs expressed hybrid LamB **proteins** containing

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the *N. meningitidis* surface loops. These strains were used to immunize rabbits and the resultant polyclonal antisera reacted specifically with the class 1 OMP of reference strain M1080 (P1.7). Immunogold labelling of meningococcal cells and whole-cell dot-blot analyses with these antisera showed that the variable epitopes were exposed on the cell surface and confirmed that this approach could be used to obtain serosubtype-specific antisera. The binding profiles of the antisera were determined from their reactions with overlapping synthetic peptides and their reactivity compared with that of relevant serosubtype-specific monoclonal antibodies. This approach was used successfully to raise antisera against two other class 1 OMP VR2s. A fourth antiserum raised against a VR2, including the P1.1 epitope, was not subtype specific.

L21 ANSWER 28 OF 31 MEDLINE DUPLICATE 9  
ACCESSION NUMBER: 94131278 MEDLINE  
DOCUMENT NUMBER: 94131278 PubMed ID: 8299943  
TITLE: A rapid and sensitive PCR strategy employed for amplification and sequencing of porA from a single colony-forming unit of *Neisseria meningitidis*.  
AUTHOR: Saunders N B; Zollinger W D; Rao V B  
CORPORATE SOURCE: Department of Biology, Catholic University of America, Washington, DC 20064.  
SOURCE: GENE, (1993 Dec 31) 137 (2) 153-62.  
Journal code: 7706761. ISSN: 0378-1119.  
PUB. COUNTRY: Netherlands  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
OTHER SOURCE: GENBANK-L02929; GENBANK-L11589; GENBANK-L11590;  
GENBANK-L11591; GENBANK-L11592; GENBANK-L11593;  
GENBANK-L11594; GENBANK-L24529; GENBANK-Z15047;  
GENBANK-Z15048  
ENTRY MONTH: 199403  
ENTRY DATE: Entered STN: 19940318  
Last Updated on STN: 19950206  
Entered Medline: 19940308

AB The predicted amino acid sequence was determined for the class-1 outer membrane protein, PorA, from a B:15:P1.7,3 strain of *Neisseria meningitidis* that is currently causing an epidemic of meningitis in Northern Chile. The P1.7,3 PorA showed a unique sequence in the exposed loop 4 of the putative porin structure that is different from all the reported PorA sequences. Based on the nucleotide (nt) sequence of the P1.7,3 porA, we designed two sets of PCR (polymerase chain reaction) primers that specifically amplified porA from any *N. meningitidis* strain, and a third set of primers that amplified porA only from the P1.7,3 strain. Using these primers, we developed a sensitive double hot-start nested PCR (HNPCR) strategy that could amplify porA and generate nt sequence from as low as a single colony-forming unit. This strategy consisted of three phases of PCR. The first two phases were designed to generate amplified target DNA that could be directly visualized by ethidium bromide staining starting from one to two molecules of *Neisseria* genome. The third phase was designed to generate a sequence of several hundred nt directly from the amplified DNA. A number of culture-negative cerebrospinal fluid samples from individuals suspected of meningitis

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during a **vaccine** trial were analyzed by this strategy to obtain more accurate information on the actual number of cases that occurred in the study and the non-study populations. The basic HNPCR strategy described here could be applied to amplify and sequence target DNAs from any low-copy-number biological sample.

L21 ANSWER 29 OF 31 MEDLINE DUPLICATE 10  
ACCESSION NUMBER: 93328113 MEDLINE  
DOCUMENT NUMBER: 93328113 PubMed ID: 8101504  
TITLE: Cloning and characterization of the *Neisseria meningitidis* *asd* gene.  
AUTHOR: Hatten L A; Schweizer H P; Averill N; Wang L;  
Schryvers A B  
CORPORATE SOURCE: Department of Microbiology and Infectious Diseases,  
University of Calgary Health Sciences Center,  
Alberta, Canada.  
SOURCE: GENE, (1993 Jul 15) 129 (1) 123-8.  
Journal code: 7706761. ISSN: 0378-1119.  
PUB. COUNTRY: Netherlands  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
OTHER SOURCE: GENBANK-D13301; GENBANK-D13302; GENBANK-L03653;  
GENBANK-L03654; GENBANK-L07632; GENBANK-L11610;  
GENBANK-X54209; GENBANK-X67926; GENBANK-X68972;  
GENBANK-Z14063  
ENTRY MONTH: 199308  
ENTRY DATE: Entered STN: 19930903  
Last Updated on STN: 19950206  
Entered Medline: 19930824

AB The *asd* mutants of Gram- and some Gram+ bacteria have an obligate requirement for diaminopimelic acid (DAP), an essential constituent of the cell wall of these organisms. In environments deprived of DAP, i.e., mammalian tissues, they will undergo lysis. This has previously been exploited to develop **vaccine** strains of *Salmonella typhimurium* and *Streptococcus mutans*. As a first step for the development of a biosafe **Neisseria meningitidis** laboratory strain, we have cloned the *asd* from wild-type strain B16B6 by complementation of an *Escherichia coli* *asd* mutant. By subcloning and insertion mutagenesis, the *N. meningitidis* *asd* was localized to a 1.5-kb DNA fragment. In a T7 RNA polymerase-T7 promoter expression system, a 38-kDa protein was strongly expressed from this DNA fragment. The N-terminal amino acid (aa) sequence was deduced from the nucleotide sequence, which was determined with the help of an in-frame *Asd'::'LacZ* protein fusion. A comparison of the N-terminal aa of the *Asd* proteins from *N. meningitidis* and *E. coli* revealed 70% identity, suggesting that the *Asd* protein may be highly conserved among Gram-bacteria.

L21 ANSWER 30 OF 31 WPIDS (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: 1992-081855 [11] WPIDS  
DOC. NO. CPI: C1992-037815  
TITLE: Nucleotide sequence coding for P64K protein of **N. MENINGITIDIS**  
- for preparation of **vaccines** with broad activity spectrum.

09/889267

DERWENT CLASS:  
INVENTOR(S):

B04 D16  
ACOSTA, A A; BLANCO, S G; CORDOVA, V M; GRILLO, J M; LASA, A M; LEON, S C; MARTINEZ, L S H; MASO, J R F; MENENDEZ, E C; NIETO, G G; PEREZ, L I N; RODRIGUEZ, E; RODRIGUEZ, R S; ROSALES, J A D; SANTOS, B T; SOSA, M S H; DE COUZEAU RODRIGUEZ, C; DEL VALLE ROSALES, J A; ALVAREZ ACOSTA, A; CARPIO MUÑOZ, E L; DE JESUS LEAL ANGULO, M; DE LA CARIDAD SILVA, RODRIGUEZ; DUARTE CANO, C A; GOMEZ RODRIGUEZ, C E; GUILLEN NIETO, G E; MARTIN DUNN, A M; NAZABAL GALVEZ, C; QUINTANA VAZQUEZ, D; RODRIGUEZ, E C; COUZEAU RODRIGUEZ, E; CRUZ, L; FERNANDEZ MASO, J R; GONZALEZ BLANCO, S; HERRERA MARTINEZ, L S; HOUSSEIN SOSA, M S; MORERA CORDOVA, V; MUSACCHIO, L; NOVOA PEREZ, L I; SANTOS, B; CRUZ LEON, S; HERRARA MARTINEZ, L S; MUSACCHIO LASA, A; FERNANDEZM, J R; HERRARAMAR, L S; HOUSSEINSO, M S; MORERACORD, V; NOVOAPEREZ, L I; CABALLERO MENENDEZ, E; GOUZEAU RODRIGUEZ, E; GRUZ LEON, S; GUILLEN NIETO, G; MORALES GRILLO, J; SILVA RODRIGUEZ, R; TAMARGO SANTOS, B

PATENT ASSIGNEE(S):

(INGG-N) CENT ING GENETICA & BIOTECNOLOGICA;  
(INGG-N) CENT ING GENETICA Y BIOTECHNOL; (INGG-N)  
CENT ING GENETICA & BIOTECNOLOGIA; (RODR-I)  
RODRIGUEZ R S; (CIGB-N) CIGB CENT ING GENETICA &  
BIOTECNOLOGIA; (INGG-N) CENT INGEN GENETICA Y  
BIOTECNOLO; (INGE-N) CENT INGEN GENETIC; (INGE-N)  
CENT ING GENETICA Y BIOTECNOLO; (INGE-N) CENT INGEN  
GENETICA Y BIOTECNOLO

COUNTRY COUNT:

PATENT INFORMATION:

22

| PATENT NO   | KIND   | DATE               | WEEK | LA | PG |
|-------------|--|--------------------|------|----|----|
| EP 474313   | A  | 19920311 (199211)* |      | 31 |    |
|             | R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE |                    |      |    |    |
| AU 9183683  | A  | 19920312 (199220)  |      |    |    |
| CA 2050749  | A  | 19920308 (199221)  |      |    |    |
| FI 9104129  | A  | 19920308 (199223)  |      |    |    |
| NO 9200500  | A  | 19930809 (199340)† |      |    |    |
| EP 474313   | A3   | 19930224 (199348)  |      |    |    |
| US 5286484  | A  | 19940215 (199407)  |      | 21 |    |
| JP 06169779 | A  | 19940621 (199429)  |      | 59 |    |
| AU 657487   | B  | 19950316 (199518)  |      |    |    |
| EP 474313   | B1   | 19970423 (199721)  | EN   | 31 |    |
|             | R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE |                    |      |    |    |
| DE 69125769 | E  | 19970528 (199727)  |      |    |    |
| ES 2103295  | T3   | 19970916 (199744)  |      |    |    |
| BR 1101051  | A3   | 19980922 (199845)  |      |    |    |
| NO 304188   | B1   | 19981109 (199851)† |      |    |    |
| FI 103511   | B1   | 19990715 (199934)  |      |    |    |
| RU 2132383  | C1   | 19990627 (200028)  |      |    |    |
| JP 3253327  | B2   | 20020204 (200211)  |      | 37 |    |
| CA 2050749  | C  | 20020702 (200253)  | EN   |    |    |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-----------|------|-------------|------|
|-----------|------|-------------|------|

Searcher : Shears 308-4994

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|             |    |                 |          |
|-------------|----|-----------------|----------|
| EP 474313   | A  | EP 1991-202291  | 19910906 |
| AU 9183683  | A  | AU 1991-83683   | 19910905 |
| CA 2050749  | A  | CA 1991-2050749 | 19910905 |
| FI 9104129  | A  | FI 1991-4129    | 19910903 |
| NO 9200500  | A  | NO 1992-500     | 19920207 |
| EP 474313   | A3 | EP 1991-202291  | 19910906 |
| US 5286484  | A  | US 1991-754918  | 19910905 |
| JP 06169779 | A  | JP 1991-255872  | 19910907 |
| AU 657487   | B  | AU 1991-83683   | 19910905 |
| EP 474313   | B1 | EP 1991-202291  | 19910906 |
| DE 69125769 | E  | DE 1991-625769  | 19910906 |
|             |    | EP 1991-202291  | 19910906 |
| ES 2103295  | T3 | EP 1991-202291  | 19910906 |
| BR 1101051  | A3 | BR 1997-1101051 | 19970514 |
| NO 304188   | B1 | NO 1992-500     | 19920207 |
| FI 103511   | B1 | FI 1991-4129    | 19910903 |
| RU 2132383  | C1 | SU 1991-5001752 | 19910906 |
| JP 3253327  | B2 | JP 1991-255872  | 19910907 |
| CA 2050749  | C  | CA 1991-2050749 | 19910905 |

FILING DETAILS:

| PATENT NO   | KIND | PATENT NO      |
|-------------|------|----------------|
| AU 657487   | B    | Previous Publ. |
| DE 69125769 | E    | Based on       |
| ES 2103295  | T3   | Based on       |
| NO 304188   | B1   | Previous Publ. |
| FI 103511   | B1   | Previous Publ. |
| JP 3253327  | B2   | Previous Publ. |

PRIORITY APPLN. INFO: CU 1990-145 19900907

AN 1992-081855 [11] WPIDS

AB EP 474313 A UPAB: 19950425

A recombinant polynucleotide comprises a nucleotide sequence coding for a protein P64k of *Neisseria meningitidis* (NM), the protein P64k having an amino acid sequence of over 1800 units. A recombinant polynucleotide as in (A), further comprises a nucleotide sequence of a cloning or expression vector. A transformed microorganism contains a recombinant polynucleotide as in (A) or (B). A recombinant proteinaceous substance comprises an amino acid sequence corresp. to the amino acid sequence of at least a part of a protein P64k of NM.

USE - The P64k protein can induce immunologically active antibodies (bactericidal antibodies) and can be used in vaccine preps. against pathogenic strains or NM. The nucleotide sequence coding for the 64kD protein has been found in all NM serotypes and serogroups tested. The protein, antibodies and nucleic acids can also be used in diagnosis

Dwg.0/0

Dwg.0/0

ABEQ EP 474313 A UPAB: 19940120

A recombinant polynucleotide comprises a nucleotide sequence coding for a protein P64k of *Neisseria meningitidis* (NM), the protein P64k having an amino acid sequence of over 1800 units. A recombinant polynucleotide as in (A), further comprises a nucleotide sequence of a cloning or expression vector. A transformed microorganism contains a recombinant polynucleotide as in (A) or (B). A recombinant

proteinaceous substance comprises an amino acid sequence corresp. to the amino acid sequence of at least a part of a protein P64k of NM.

USE - The P64k protein can induce immunologically active antibodies (bactericidal antibodies) and can be used in vaccine preps. against pathogenic strains or NM. The nucleotide sequence coding for the 64kD protein has been found in all NM serotypes and serogroups tested. The protein, antibodies and nucleic acids can also be used in diagnosis

ABEQ US 5286484 A UPAB: 19940329

Recombinant polynucleotide comprises a nucleotide sequence encoding protein P64K of *Neisseria meningitidis*.

Also claimed are a transformed microorganism containing the nucleotide sequence, and a recombinant DNA comprising the 17-6 gene.

USE - Useful in diagnostic methods and vaccine preparations e.g. bivalent vaccines with a broad immunoprotective spectrum e.g. protein-polysaccharide conjugates, fusion proteins, etc.

Dwg.0/6

ABEQ EP 474313 B UPAB: 19970522

A recombinant polynucleotide, comprising a nucleotide sequence coding for a protein P64k of *Neisseria meningitidis*, said protein P64k essentially having the amino acid sequence shown in SEQ ID NO:1.

Dwg.0/6

|                     |   |              |
|---------------------|---|--------------|
| L21 ANSWER 31 OF 31 | MEDLINE   | DUPLICATE 11 |
| ACCESSION NUMBER:   | 92219993 MEDLINE  |              |
| DOCUMENT NUMBER:    | 92219993 PubMed ID: 1560777   |              |
| TITLE:              | Role of horizontal genetic exchange in the antigenic variation of the class 1 outer membrane protein of <i>Neisseria meningitidis</i> . |              |
| AUTHOR:             | Feavers I M; Heath A B; Bygraves J A; Maiden M C  |              |
| CORPORATE SOURCE:   | Division of Bacteriology, National Institute for Biological Standards and Control, Potters Bar, Hertfordshire, UK.                      |              |
| SOURCE:             | MOLECULAR MICROBIOLOGY, (1992 Feb) 6 (4) 489-95.<br>Journal code: 8712028. ISSN: 0950-382X.   |              |
| PUB. COUNTRY:       | ENGLAND: United Kingdom   |              |
| DOCUMENT TYPE:      | Journal; Article; (JOURNAL ARTICLE)   |              |
| LANGUAGE:           | English   |              |
| FILE SEGMENT:       | Priority Journals   |              |
| ENTRY MONTH:        | 199205  |              |
| ENTRY DATE:         | Entered STN: 19920529<br>Last Updated on STN: 19920529<br>Entered Medline: 19920514   |              |

AB The nucleotide sequences of the genes encoding the class 1 outer membrane protein of *Neisseria meningitidis* (PorA) from 15 meningococcal isolates have been examined. These strains, isolated over a number of years, represented a variety of serological types, clonal groups, and geographical locations. Analysis of the aligned nucleotide sequences showed that the known serological relationships between these proteins were not necessarily reflected throughout the nucleotide sequences of their genes. The uneven distribution of base substitutions, revealed by a comparison of the informative bases, suggested that these genes possessed a mosaic structure. This structure probably resulted from the horizontal transfer of DNA between strains and would have contributed to both the generation and the spread of novel antigenic variants of the

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protein. In addition, the nucleotide differences between porA genes from different strains were not consistent with the nucleotide sequence divergence of the whole chromosome, as indicated by pulsed-field gel electrophoresis (PFGE) fingerprinting techniques: some strains with divergent PFGE fingerprints shared porA genes with extensive regions of nucleotide sequence identity and, conversely, some strains with similar chromosome structures possessed porA genes with different nucleotide sequences and serological properties. This suggested that entire genes had been exchanged between strains. Given that the meningococcal class 1 OMP is a major component in novel vaccines, some of which are currently undergoing field trials, the potential of horizontal genetic exchange to generate antigenic diversity has implications for the design of such vaccines.

(FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 10:05:01 ON 14 NOV 2002)

L22            26 S RUELLE J?/AU AND L1  
L23            14 DUP REM L22 (12 DUPLICATES REMOVED)

L23 ANSWER 1 OF 14 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
ACCESSION NUMBER: 2002:331035 BIOSIS  
DOCUMENT NUMBER: PREV200200331035  
TITLE: Outer membrane vesicles and other options for a meningococcal B vaccine.  
AUTHOR(S): Poolman, J. T. (1); Feron, C. (1); Dequesne, G. (1); Denoel, P. A. (1); Dessoix, S. (1); Goraj, K. K. (1); Janssens, D. E. (1); Kummert, S. (1); Lobet, Y. (1); Mertens, E. (1); Monnom, D. Y. (1); Momin, P. (1); Pepin, N. (1); Ruelle, J.-L. (1); Thonnard, J. J. (1); Verlant, V. G. (1); Voet, P. (1); Berthet, F. X. (1)  
CORPORATE SOURCE: (1) SmithKline Beecham Biologicals S. A, Rue de l'Institut 89, B-1330, Rixensart:  
SOURCE: Jan.POOLMAN@sbbio.be Belgium  
Ferreiros, Carlos [Editor]; Criado, Maria Teresa [Editor]; Vazquez, Julio [Editor]. (2002) pp. 135-149. Emerging strategies in the fight against meningitis: Molecular and cellular aspects. Edition 1. print.  
Publisher: Horizon Scientific Press Wymondham, Norfolk, NR18 0EH, UK.  
ISBN: 1-898486-34-4 (cloth).  
DOCUMENT TYPE: Book  
LANGUAGE: English

L23 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2002:222707 HCAPLUS  
DOCUMENT NUMBER: 137:138812  
TITLE: Outer membrane vesicles and other options for a meningococcal B vaccine  
AUTHOR(S): Poolman, J. T.; Feron, C.; Dequesne, G.; Denoel, P. A.; Dessoix, S.; Goraj, K. K.; Janssens, D. E.; Kummert, S.; Lobet, Y.; Mertens, E.; Monnom, D. Y.; Momin, P.; Pepin, N.; Ruelle, J.-L.; Thonnard, J. J.; Verlant, V. G.; Voet, P.; Berthet, F. X.

09/889267

CORPORATE SOURCE: UK  
SOURCE: Emerging Strategies in the Fight against Meningitis (2002), 135-149. Editor(s): Ferreiros, Carlos; Criado, Maria Teresa; Vazquez, Julio. Horizon Scientific Press: Wymondham, UK.  
CODEN: 69CKED; ISBN: 1-898486-34-4  
DOCUMENT TYPE: Conference; General Review  
LANGUAGE: English  
AB A review. The development of a menB vaccine is difficult. Outer membrane vesicles derived from wild-type strains were protective in teenagers in homologous settings. From Brazilian studies evidence has been obtained that protection > 4 yr can be obsd. with a monovalent wild-type OMV vaccine even in epidemiol. situations characterized by multi-strain endemic disease. With such OMV vaccines, the serum bactericidal activity (SBA) results demonstrate serosubtype (PorA) specificity, particularly in infants. Ongoing research has identified potential cross-bactericidal activity inducing menB antigens. This research has recently been supplemented by the possibility to identify antigens from available full genomic sequences. The challenge is to find the right combination of antigens to develop a generic crossreactive menB vaccine.

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 3 OF 14 HCPLUS COPYRIGHT 2002 ACS DUPLICATE 1

ACCESSION NUMBER: 2000:666880 HCPLUS

DOCUMENT NUMBER: 133:247256

TITLE: Antigens and their genes from *Neisseria meningitidis* and their use as vaccines and diagnostic reagents

INVENTOR(S): Defrenne, Catherine; Delmelle, Christine; Ruelle, Jean-Louis

PATENT ASSIGNEE(S): SmithKline Beecham Biologicals S.A., Belg.

SOURCE: PCT Int. Appl., 108 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND   | DATE     | APPLICATION NO. | DATE     |
|---------------|--|----------|-----------------|----------|
| WO 2000055327 | A2   | 20000921 | WO 2000-EP1955  | 20000307 |
| WO 2000055327 | A3   | 20010104 |                 |          |
| W:            | AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |          |                 |          |
| RW:           | GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |          |                 |          |
| EP 1163343    | A2   | 20011219 | EP 2000-909329  | 20000307 |
| R:            | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  |          |                 |          |

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PT, IE, SI, LT, LV, FI, RO  
PRIORITY APPLN. INFO.: GB 1999-5815 A 19990312  
GB 1999-9094 A 19990421  
GB 1999-9503 A 19990423  
GB 1999-9787 A 19990428  
GB 1999-10710 A 19990507  
WO 2000-EP1955 W 20000307

AB The invention provides BASB082, 083, 091, 092 and 101 proteins and genes encoding BASB082, 083, 091, 092 and 101 proteins and methods for producing such proteins by recombinant techniques. Genomic DNAs encoding the 5 antigens were isolated and sequenced from **Neisseria meningitidis** serogroup B strains ATCC 13090. BASB082 showed similarity to *Pseudomonas aeruginosa* outer membrane hemin receptor PhuR, BASB083 to *Synechocystis* ferrichrome-iron receptor FhuA, BASB091 to *Pseudomonas aeruginosa* OmlA lipoprotein, BASB092 to *Pasteurella hemolytic* Plp3 lipoprotein, and BASB0101 to CeuE, a periplasmic binding protein of an ABC ferrichrome transporter system protein of *Campylobacter coli*. Also provided are diagnostic, prophylactic and therapeutic uses.

L23 ANSWER 4 OF 14 HCPLUS COPYRIGHT 2002 ACS DUPLICATE 2

ACCESSION NUMBER: 2000:513808 HCPLUS

DOCUMENT NUMBER: 133:129846

TITLE: Antigens and their genes from **Neisseria meningitidis** and their use as vaccines and diagnostic reagents

INVENTOR(S): Ruelle, Jean-Louis

PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.

SOURCE: PCT Int. Appl., 103 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 2000043519   | A2   | 20000727 | WO 2000-EP428   | 20000119   |
| WO 2000043519   | A3   | 20001207 |                 |            |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |            |
| EP 1149164  | A2   | 20011031 | EP 2000-901121  | 20000119   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO   |      |          |                 |            |
| PRIORITY APPLN. INFO.:  |      |          | GB 1999-1368    | A 19990122 |
|   |      |          | GB 1999-1944    | A 19990128 |
|   |      |          | GB 1999-2086    | A 19990129 |
|   |      |          | GB 1999-3417    | A 19990215 |
|   |      |          | GB 1999-3535    | A 19990216 |
|   |      |          | WO 2000-EP428   | W 20000119 |

AB The invention provides BASB047, BASB054, BASB068 and BASB069

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polypeptides, and polynucleotides encoding BASB047, BASB054, BASB068 and BASB069 polypeptides and methods for producing such polypeptides by recombinant techniques. Also provided are diagnostic, prophylactic and therapeutic uses.

L23 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 3  
ACCESSION NUMBER: 2000:493684 HCAPLUS  
DOCUMENT NUMBER: 133:115927  
TITLE: **Neisseria meningitidis**  
INVENTOR(S): antigen BASB053 and gene and their uses in  
PATENT ASSIGNEE(S): diagnosis and vaccination  
Ruelle, Jean-Louis  
SOURCE: SmithKline Beecham Biologicals S.A., Belg.  
PCT Int. Appl., 92 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 2000042193  | A1   | 20000720 | WO 2000-EP137   | 20000110   |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,<br>CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,<br>ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,<br>LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,<br>SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,<br>VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,<br>DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF,<br>BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |      |          |                 |            |
| EP 1144643   | A1   | 20011017 | EP 2000-901085  | 20000110   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,<br>PT, IE, SI, LT, LV, FI, RO   |      |          |                 |            |
| PRIORITY APPLN. INFO.:   |      |          | GB 1999-959     | A 19990115 |
|  |      |          | GB 1999-1903    | A 19990128 |
|  |      |          | WO 2000-EP137   | W 20000110 |

AB The invention provides BASB053 antigen and a gene encoding BASB053 and methods for producing BASB053 with recombinant organisms. Also provided are diagnostic, prophylactic and therapeutic uses. BASB0532 displayed sequence homol. to Pseudomonas ferric pseudobactin M114 receptor protein. The gene was expressed in Escherichia coli.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 4  
ACCESSION NUMBER: 2000:493683 HCAPLUS  
DOCUMENT NUMBER: 133:115926  
TITLE: **Neisseria meningitidis**  
INVENTOR(S): antigen BASB052 and gene and their use in  
PATENT ASSIGNEE(S): diagnosis and vaccination  
Ruelle, Jean-Louis  
SOURCE: SmithKline Beecham Biologicals S.A., Belg.  
PCT Int. Appl., 81 pp.  
CODEN: PIXXD2

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DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.             | KIND   | DATE     | APPLICATION NO. | DATE       |
|------------------------|--|----------|-----------------|------------|
| WO 2000042192          | A1   | 20000720 | WO 2000-EP136   | 20000110   |
| W:                     | AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |          |                 |            |
| RW:                    | GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |          |                 |            |
| EP 1144645             | A1   | 20011017 | EP 2000-901525  | 20000110   |
| R:                     | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO   |          |                 |            |
| PRIORITY APPLN. INFO.: |  |          | GB 1999-841     | A 19990115 |
|                        |  |          | GB 1999-1946    | A 19990128 |
|                        |  |          | WO 2000-EP136   | W 20000110 |

AB The invention provides BASB052 antigen and a gene encoding BASB052 and methods for producing BASB052 with recombinant organisms. Also provided are diagnostic, prophylactic and therapeutic uses. BASB052 displayed sequence homol. to *Neisseria gonorrhoeae* tcp protein and contained a signal sequence characteristic of a lipoprotein. The gene was expressed in *Escherichia coli*. Mice immunized with this recombinant protein produced antibodies to *N. meningitidis*. The BASB052 antigen seemed to be present in all *N. meningitidis* B strains.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 7 OF 14 HCPLUS COPYRIGHT 2002 ACS DUPLICATE 5  
ACCESSION NUMBER: 2000:493682 HCPLUS  
DOCUMENT NUMBER: 133:115925  
TITLE: *Neisseria* BASB antigens and genes and their use in diagnosis and vaccination  
INVENTOR(S): Ruelle, Jean-Louis; Thonnard, Joelle  
PATENT ASSIGNEE(S): SmithKline Beecham Biologicals S.A., Belg.  
SOURCE: PCT Int. Appl., 129 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE  |
|---------------|------|----------|-----------------|---|
| WO 2000042191 | A2   | 20000720 | WO 2000-EP135   | 20000110  |
| WO 2000042191 | A3   | 20001116 | W:              | AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, |

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SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,  
 VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF,  
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
 EP 1144644 A2 20011017 EP 2000-901524 20000110  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
 PT, IE, SI, LT, LV, FI, RO

| PRIORITY APPLN. INFO.: | GB | 1999-838   | A | 19990115 |
|------------------------|----|------------|---|----------|
|                        | GB | 1999-952   | A | 19990115 |
|                        | GB | 1999-1945  | A | 19990128 |
|                        | GB | 1999-1948  | A | 19990128 |
|                        | GB | 1999-2074  | A | 19990129 |
|                        | GB | 1999-2078  | A | 19990129 |
|                        | GB | 1999-2088  | A | 19990129 |
|                        | GB | 1999-2879  | A | 19990209 |
|                        | GB | 1999-2936  | A | 19990210 |
|                        | GB | 1999-3978  | A | 19990220 |
|                        | GB | 1999-4133  | A | 19990223 |
|                        | GB | 1999-4404  | A | 19990225 |
|                        | WO | 2000-EP135 | W | 20000110 |

AB The invention provides **N. meningitidis** BASB antigens and genes and methods for producing BASB antigens with recombinant organisms. Also provided are diagnostic, prophylactic and therapeutic uses. Thus, BASB051 showed similarity to **N. gonorrhoeae** ComL lipoprotein, BASB057 to **N. gonorrhoeae** MtrE outer membrane lipoprotein, BASB061 to **N. meningitidis** Mlp protein, BASB066 to **N. meningitidis** CtrA protein, and BASB071 to **N. gonorrhoeae** HisJ protein. BASB060, BASB063, BASB065 antigens and genes are also reported.

L23 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 6

ACCESSION NUMBER: 2000:402006 HCPLUS

DOCUMENT NUMBER: 133:38214

**TITLE:** Antigens and their genes from ***Neisseria meningitidis*** and their use as vaccines and diagnostic reagents

**INVENTOR(S) :** Ruelle, Jean-Louis; Verlant, Vincent

Georges Christian Louis

PATENT ASSIGNEE(S): SmithKline Beecham Biol

SOURCE: PCT Int. Appl

CODEN: PIXXD2

**DOCUMENT TYPE** ... Patent

**LANGUAGE:** English

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.

WO 2000034482 A2 20000615 WO 1999-IB2014 19991207  
WO 2000034482 A3 20001012

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,  
CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,  
ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,  
LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,  
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,  
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,

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DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF,  
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
EP 1137777 A2 20011004 EP 1999-958434 19991207  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, SI, LT, LV, FI, RO  
PRIORITY APPLN. INFO.: GB 1998-26979 A 19981208  
GB 1998-26980 A 19981208  
GB 1998-28015 A 19981217  
GB 1999-90 A 19990105  
WO 1999-IB2014 W 19991207

AB The invention provides BASB041, 43, 44 and 48 polypeptides and polynucleotides encoding BASB041, 43, 44 and 48 polypeptides and methods for producing such polypeptides by recombinant techniques. Genomic DNAs encoding the 4 antigens were isolated and sequenced from **Neisseria meningitidis** serogroup B strains ATCC 13090 and H44/76. Also provided are diagnostic, prophylactic and therapeutic uses.

L23 ANSWER 9 OF 14 HCPLUS COPYRIGHT 2002 ACS. DUPLICATE 7

ACCESSION NUMBER: 2000:402004 HCPLUS

DOCUMENT NUMBER: 133:39137

TITLE: Sequences of **Neisseria meningitidis** protein BASB040, and uses thereof in vaccines and in diagnostic applications

INVENTOR(S): Ruelle, Jean-Louis

PATENT ASSIGNEE(S): SmithKline Beecham Biologicals S.A., Belg.

SOURCE: PCT Int. Appl., 98 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 2000034480   | A1   | 20000615 | WO 1999-EP9560  | 19991202   |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |            |
| EP 1137778  | A1   | 20011004 | EP 1999-961063  | 19991202   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO   |      |          |                 |            |
| PRIORITY APPLN. INFO.:  |      |          | GB 1998-26886   | A 19981207 |
|   |      |          | WO 1999-EP9560  | W 19991202 |

AB This invention provides sequences of a newly identified **Neisseria meningitidis** protein, designated BASB040. BASB040 was isolated from **N. meningitidis** serogroup B strains ATCC13090 and H44/76. Also disclosed are methods for utilizing BASB040 in vaccines and in diagnostic assays for detecting diseases assocd. with inappropriate BASB040 activity or levels.

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REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 8  
ACCESSION NUMBER: 2000:191222 HCAPLUS  
DOCUMENT NUMBER: 132:232744  
TITLE: BASB033 genes and proteins from *Neisseria meningitidis* and their use in diagnosis and for vaccination  
INVENTOR(S): Ruelle, Jean-louis  
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.  
SOURCE: PCT Int. Appl., 93 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 20000015801   | A1   | 20000323 | WO 1999-EP6718  | 19990909   |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,<br>CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,<br>ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,<br>LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD,<br>SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU,<br>ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE,<br>DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,<br>CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |      |          |                 |            |
| CA 2343314   | AA   | 20000323 | CA 1999-2343314 | 19990909   |
| AU 9958622   | A1   | 20000403 | AU 1999-58622   | 19990909   |
| EP 1112366   | A1   | 20010704 | EP 1999-946160  | 19990909   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,<br>PT, IE, SI, LT, LV, FI, RO   |      |          |                 |            |
| JP 2002528057  | T2   | 20020903 | JP 2000-570328  | 19990909   |
| PRIORITY APPLN. INFO.:   |      |          | GB 1998-20003   | A 19980914 |
|  |      |          | WO 1999-EP6718  | W 19990909 |

AB The invention provides BASB033 proteins and genes and methods for producing such proteins by recombinant techniques. Also provided are diagnostic, prophylactic and therapeutic uses. The BASB033 protein from the ATCC13090 strain showed significant similarity (35% identity in a 292 amino acid overlap) with the *Klebsiella pneumoniae* outer membrane phospholipase A protein. The BASB033 protein for the H44/76 strain displayed .apprx.99% sequence identity with that of the ATCC13090 strain. The protein was produced with recombinant *E. coli* and used to immunize mice. Almost all *N. meningitidis* serogroup B strain tested reacted with the antibodies produced by these mice. Anti-BASB033 antibodies were found in sera of convalescent patients. The promoter region of the BASB033 gene was cloned and sequenced.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 9  
ACCESSION NUMBER: 1999:764198 HCAPLUS

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DOCUMENT NUMBER: 132:19650  
TITLE: Protein and DNA sequences of **Neisseria meningitidis** BASB030 gene epitopes, and uses thereof in vaccine compositions and in assays for the diagnosis of bacterial infections  
INVENTOR(S): **Ruelle, Jean-louis**  
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.  
SOURCE: PCT Int. Appl., 96 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 9961620  | A2   | 19991202 | WO 1999-EP3603  | 19990526   |
| WO 9961620  | A3   | 20000302 |                 |            |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |            |
| CA 2329269  | AA   | 19991202 | CA 1999-2329269 | 19990526   |
| AU 9945006  | A1   | 19991213 | AU 1999-45006   | 19990526   |
| EP 1080198  | A2   | 20010307 | EP 1999-927754  | 19990526   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI   |      |          |                 |            |
| JP 2002516105   | T2   | 20020604 | JP 2000-551004  | 19990526   |
| BR 9911601  | A    | 20010206 | BR 1999-11601   | 19991202   |
| NO 2000005952   | A    | 20010118 | NO 2000-5952    | 20001124   |
| PRIORITY APPLN. INFO.:  |      |          | GB 1998-11260   | A 19980526 |
|   |      |          | WO 1999-EP3603  | W 19990526 |

AB The invention provides **Neisseria meningitidis** BASB030 polypeptides and polynucleotides encoding BASB030 polypeptides and methods for producing such polypeptides by recombinant techniques. Also provided are antibodies, diagnostic, prophylactic and therapeutic uses thereof. The invention also relates to the use of an immunogenic fragment, preferably the extracellular domain, of the provided protein in a vaccine. The invention further relates to the use of the provided protein and/or gene in the diagnosis of bacterial infections, esp. those of **Neisseria**.

L23 ANSWER 12 OF 14 HCPLUS COPYRIGHT 2002 ACS DUPLICATE 10  
ACCESSION NUMBER: 1999:736937 HCPLUS  
DOCUMENT NUMBER: 131:347559  
TITLE: Basb029 polynucleotide(s) and polypeptides from **Neisseria meningitidis**  
INVENTOR(S): **Ruelle, Jean-Louis**  
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.  
SOURCE: PCT Int. Appl., 74 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent

09/889267

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 9958683  | A2   | 19991118 | WO 1999-EP3255  | 19990507   |
| WO 9958683  | A3   | 20000406 |                 |            |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |            |
| CA 2328403  | AA   | 19991118 | CA 1999-2328403 | 19990507   |
| AU 9941420  | A1   | 19991129 | AU 1999-41420   | 19990507   |
| AU 750032   | B2   | 20020711 |                 |            |
| EP 1078063  | A2   | 20010228 | EP 1999-924946  | 19990507   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI   |      |          |                 |            |
| BR 9910396  | A    | 20011030 | BR 1999-10396   | 19990507   |
| JP 2002514424   | T2   | 20020521 | JP 2000-548474  | 19990507   |
| NO 2000005696   | A    | 20010111 | NO 2000-5696    | 20001110   |
| PRIORITY APPLN. INFO.:  |      |          | GB 1998-10276   | A 19980513 |
|   |      |          | WO 1999-EP3255  | W 19990507 |

AB The invention provides BASB029 polypeptides and polynucleotides encoding BASB029 polypeptides and methods for producing such polypeptides by recombinant techniques. Also provided are diagnostic, prophylactic and therapeutic uses as novel vaccine compns. are relayed. Prognostic and serotyping and mutation assays are all provided. In addn., antagonist and agonist screening assays are provided. Applications for immunization are relayed as well.

L23 ANSWER 13 OF 14 HCPLUS COPYRIGHT 2002 ACS DUPLICATE 11

ACCESSION NUMBER: 1999:708914 HCPLUS

DOCUMENT NUMBER: 131:333043

TITLE: Protein and DNA sequences of **Neisseria meningitidis** BASB013 gene, and uses thereof in vaccine compositions and in assays for the diagnosis of bacterial infections

INVENTOR(S): Ruelle, Jean-louis

PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.

SOURCE: PCT Int. Appl., 94 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|--|------|----------|-----------------|----------|
| WO 9955872   | A1   | 19991104 | WO 1999-EP2765  | 19990420 |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, |      |          |                 |          |

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MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW,  
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE,  
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,  
CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
CA 2326404 AA 19991104 CA 1999-2326404 19990420  
AU 9938221 A1 19991116 AU 1999-38221 19990420  
EP 1073747 A1 20010207 EP 1999-920767 19990420  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, FI  
PRIORITY APPLN. INFO.: GB 1998-8734 A 19980423  
WO 1999-EP2765 W 19990420

AB This invention provides the sequence of the **Neisseria meningitidis** BASB013 gene, which encodes a protein that has homol. to the MucD protein of *Pseudomonas aeruginosa* and to the HtrA serine protease found in many bacteria. The invention also relates to the use of an immunogenic fragment, preferably the extracellular domain, of the provided protein in a vaccine. The invention further relates to the use of the provided protein and/or gene in the diagnosis of bacterial infections, esp. those of *Neisseria*.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 14 OF 14 HCPLUS COPYRIGHT 2002 ACS DUPLICATE 12  
ACCESSION NUMBER: 1998:71228 HCPLUS  
DOCUMENT NUMBER: 128:164910  
TITLE: Genes and gene products specific to pathogenicity of **Neisseria meningitidis**, methods for obtaining them and their biological applications  
INVENTOR(S): Nassif, Xavier; Tinsley, Colin; Achtman, Mark; Ruelle, Jean-Louis; Vinals, Carla; Merker, Petra  
PATENT ASSIGNEE(S): Institut National De La Sante Et De La Recherche Medicale (INSERM), Fr.; Max-Planck-Gesellschaft Zur Forderung Der Wissenschaften E.V., Berlin; Smithkline Beecham; Nassif, Xavier; Tinsley, Colin; Achtman, Mark; Ruelle, Jean-Louis; Vinals, Carla; Merker, Petra  
SOURCE: PCT Int. Appl., 150 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: French  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE     |
|------------|------|----------|-----------------|----------|
| WO 9802547 | A2   | 19980122 | WO 1997-FR1295  | 19970711 |
| WO 9802547 | A3   | 19980409 |                 |          |

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

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RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI,  
FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
CM, GA, GN, ML, MR, NE, SN, TD, TG  
FR 2751000 A1 19980116 FR 1996-8768 19960712  
FR 2751000 B1 19981030  
AU 9736977 A1 19980209 AU 1997-36977 19970711  
AU 730423 B2 20010308  
EP 951552 A2 19991027 EP 1997-933727 19970711  
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, FI  
JP 2001504684 T2 20010410 JP 1998-505685 19970711  
US 2002164603 A1 20021107 US 2001-928457 20010814  
PRIORITY APPLN. INFO.: FR 1996-8768 A 19960712  
WO 1997-FR1295 W 19970711  
US 1999-214759 B1 19990422

AB DNA sequences that are found in *Neisseria meningitidis* that are unique to it, specific to pathogenesis, and not found in *N. gonorrhoeae*, *N. lactamica* or *N. cinerea* are cloned by representational difference anal. A no. of genes assocd. with pathogenesis that are found in *N. meningitidis* and *N. gonorrhoeae* including the genes of biosynthesis of the polysaccharide capsule (frpA, frpC, porA), pilC, the genes for rotamase, IgA protease, pilin, transferring-binding proteins and opacity proteins and the sequence IS1106. The genes map in clusters in three regions of the chromosome. The gene products can be used as antigens in the raising of antibodies for diagnostic or therapeutic uses, e.g. specific immunoassays or vaccines. The roles of the genes in pathogenesis can be studied by targeted deletion.

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